



May 10, 2022

VIA E-MAIL

Secretary
Securities and Exchange Commission
100 F Street, N.E.
Washington, DC 20549-1090

Re: Securities Exchange Act Rel. 34-94490 (SR-NYSEArca-2022-13)

Dear Secretary:

NYSE Arca, Inc. filed the attached Amendment No. 1 to the above-referenced filing on May 10, 2022.

Sincerely,

pri

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Encl. (Amendment No. 1 to SR-NYSEArca-2022-13)

Required fields are shown with yellow backgrounds and asterisks.

Page 1 of * 21

SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549
Form 19b-4

F e No. * SR 2022 * 13

Amendment No. (req. for Amendments *) 1

F ng by NYSE Arca, Inc.

Pursuant to Ru e 19b 4 under the Secur tes Exchange Act of 1934

Int a * <input type="checkbox"/>	Amendment * <input checked="" type="checkbox"/>	W thdrawa <input type="checkbox"/>	Sect on 19(b)(2) * <input checked="" type="checkbox"/>	Sect on 19(b)(3)(A) * <input type="checkbox"/>	Sect on 19(b)(3)(B) * <input type="checkbox"/>
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P ot <input type="checkbox"/>	Extens on of T me Per od for Comm ss on Act on * <input type="checkbox"/>	Date Exp res * <input type="text"/>	Ru e
			<input type="checkbox"/> 19b 4(f)(1) <input type="checkbox"/> 19b 4(f)(4) <input type="checkbox"/> 19b 4(f)(2) <input type="checkbox"/> 19b 4(f)(5) <input type="checkbox"/> 19b 4(f)(3) <input type="checkbox"/> 19b 4(f)(6)

Not ce of proposed change pursuant to the Payment, C ear ng, and Sett ement Act of 2010

Sect on 806(e)(1) *

Sect on 806(e)(2) *

Secur ty Based Swap Subm ss on pursuant to the Secur tes Exchange Act of 1934

Sect on 3C(b)(2) *

Exh b t 2 Sent As Paper Document

Exh b t 3 Sent As Paper Document

Description

Prov de a br ef descr pt on of the act on (m t 250 characters, requ red when Int a s checked *).

Proposa to amend Ru e 7.31 E(h)(3)

Contact Information

Prov de the name, te ephone number, and e ma address of the person on the staff of the se f regu atory organ zat on prepared to respond to quest ons and comments on the act on.

F rst Name * Le Anh Last Name * Bu

T te * Counse , NYSE Group Inc.

E ma *

Te ephone * Fax

Signature

Pursuant to the requ rements of the Secur tes Exchange of 1934, NYSE Arca, Inc. has duty caused th s f ng to be s gned on ts beha f by the unders gned thereunto duty author zed.

Date 05/10/2022

(tle *)

By Martha Redd ng

Corporate Secretary

(Name *)

NO E Clicking the signature block at right will initiate digitally signing the orm A digital signature is as legally binding as a physical signature and once signed this orm cannot be changed

Martha Redding
Digitally signed by Martha Redding
Date 2022 05 10 12 59 11 -04'00'

Required fields are shown with yellow backgrounds and astericks.

SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

For complete Form 19b-4 instructions please refer to the EDFS website.

Form 19b-4 Information *

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SEC Sub of Amendment 1 19b 4 NYS

The self regulatory organization must provide a required information, presented in a clear and comprehensible manner, to enable the public to provide meaningful comment on the proposal and for the Commission to determine whether the proposals consistent with the Act and applicable rules and regulations under the Act.

Exhibit 1 - Notice of Proposed Rule Change *

Add Remove View

Ex. 1 SEC Sub of Amendment 1 19b 4

The Notice section of this Form 19b-4 must comply with the guidelines for publication in the Federal Register as well as any requirements for electronic filing as published by the Commission (applicable). The Office of the Federal Register (OFR) offers guidance on Federal Register publication requirements in the Federal Register Document Drafting Handbook, October 1998 Revision. For example, all references to the federal securities laws must include the corresponding cite to the United States Code in a footnote. All references to SEC rules must include the corresponding cite to the Code of Federal Regulations in a footnote. All references to Securities Exchange Act Releases must include the release number, release date, Federal Register cite, Federal Register date, and corresponding file number (e.g., SR [SRO] xx xx). A material failure to comply with these guidelines will result in the proposed rule change being deemed not properly filed. See also Rule 0-3 under the Act (17 CFR 240.0-3).

Exhibit 1A - Notice of Proposed Rule Change, Security-Based Swap Submission, or Advanced Notice by Clearing Agencies *

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The Notice section of this Form 19b-4 must comply with the guidelines for publication in the Federal Register as well as any requirements for electronic filing as published by the Commission (applicable). The Office of the Federal Register (OFR) offers guidance on Federal Register publication requirements in the Federal Register Document Drafting Handbook, October 1998 Revision. For example, all references to the federal securities laws must include the corresponding cite to the United States Code in a footnote. All references to Securities Exchange Act Releases must include the release number, release date, Federal Register cite, Federal Register date, and corresponding file number (e.g., SR [SRO] xx xx). A material failure to comply with these guidelines will result in the proposed rule change being deemed not properly filed. See also Rule 0-3 under the Act (17 CFR 240.0-3).

Exhibit 2- Notices, Written Comments, Transcripts, Other Communications

Add Remove View

Copies of notices, written comments, transcripts, other communications. If such documents cannot be filed electronically in accordance with Instruction F, they shall be filed in accordance with Instruction G.

Exhibit Sent As Paper Document

Exhibit 3 - Form, Report, or Questionnaire

Add Remove View

Copies of any form, report, or questionnaire that the self regulatory organization proposes to use to help implement or operate the proposed rule change, or that is referred to by the proposed rule change.

Exhibit Sent As Paper Document

Exhibit 4 - Marked Copies

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The full text shall be marked, in any convenient manner, to indicate additions to and deletions from the immediately preceding filing. The purpose of Exhibit 4 is to permit the staff to identify immediately the changes made from the text of the rule with which it has been working.

Exhibit 5 - Proposed Rule Text

Add Remove View

Ex. 5 SEC Sub of Amendment 1 19b 4

The self regulatory organization may choose to attach as Exhibit 5 proposed changes to rule text in place of providing them in Item I and which may otherwise be more easily readable if provided separately from Form 19b-4. Exhibit 5 shall be considered part of the proposed rule change.

Partial Amendment

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If the self regulatory organization is amending only part of the text of a lengthy proposed rule change, it may, with the Commission's permission, file only those portions of the text of the proposed rule change in which changes are being made (i.e. part amendment) so clearly understandable on its face. Such part amendment shall be clearly identified and marked to show deletions and additions.

1. Text of the Proposed Rule Change

- (a) Pursuant to the provisions of Section 19(b)(1) of the Securities Exchange Act of 1934 (the “Act”)¹ and Rule 19b-4 thereunder,² NYSE Arca, Inc. (“NYSE Arca” or the “Exchange”) proposes to amend Rule 7.31-E(h)(3) with respect to Discretionary Pegged Orders.

This Amendment No. 1 to SR-NYSEArca-2022-13 replaces SR-NYSEArca-2022-13 as originally filed and supersedes such filing in its entirety.

A notice of the proposed rule change for publication in the Federal Register is attached hereto as Exhibit 1.

- (b) The Exchange does not believe that the proposed rule change will have any direct effect, or any significant indirect effect, on any other Exchange rule in effect at the time of this filing.
- (c) Not applicable.

2. Procedures of the Self-Regulatory Organization

Senior management has approved the proposed rule change pursuant to authority delegated to it by the Board of the Exchange. No further action is required under the Exchange’s governing documents. Therefore, the Exchange’s internal procedures with respect to the proposed change are complete.

The person on the Exchange staff prepared to respond to questions and comments on the proposed rule change is:

Le-Anh Bui
Counsel
NYSE Group, Inc.
(212) 656-2225

3. Self-Regulatory Organization’s Statement of the Purpose of, and Statutory Basis for, the Proposed Rule Change

- (a) Purpose

The Exchange proposes to amend Rule 7.31-E(h)(3) to modify certain factors relevant to the quote instability calculation for Discretionary Pegged Orders. The Discretionary Pegged Order is a non-displayed order type that is pegged to the

¹ 15 U.S.C. 78s(b)(1).

² 17 CFR 240.19b-4.

same side of the PBBO.³ The price of a Discretionary Pegged Order automatically adjusts as the PBBO moves, and a Discretionary Pegged Order will exercise the least amount of discretion necessary to trade with contra-side interest. A Discretionary Pegged Order will not exercise discretion if the PBBO is determined to be unstable via a quote instability calculation that assesses the probability of a change to the PBB or PBO (as described in further detail below), thereby offering protection against unfavorable executions during periods of quote instability.

Specifically, the Exchange proposes to amend Rule 7.31-E(h)(3)(D)(i)(D)(1)(a), which sets forth the quote stability coefficients. Under Rule 7.31-E(h)(3)(D)(i)(D)(3), the Exchange may modify the quote stability coefficients at any time, subject to a filing of a proposed rule change. The Exchange proposes such changes in this rule filing.

Discretionary Pegged Orders

Rule 7.31-E(h)(3) provides for Discretionary Pegged Orders, which are Pegged Orders⁴ that may exercise price discretion from their working price to a discretionary price in order to trade with contra-side orders on the NYSE Arca Book, except during periods of quote instability as defined in Rule 7.31-E(h)(3)(D).

Rule 7.31-E(h)(3)(D) provides that the Exchange uses a quote instability calculation to assess a security's "quote instability factor," or the probability of an imminent change to the current PBB to a lower price or PBO to a higher price. When quoting activity in a security meets predefined criteria and the quote instability factor calculated is greater than the Exchange's defined "quote instability threshold," the Exchange treats the quote as unstable ("quote instability" or a "crumbling quote").

Rule 7.31-E(h)(3)(D)(i) provides that the Exchange determines a quote to be unstable when, among other factors, the quote instability factor result from the quote stability calculation is greater than the quote instability threshold. To perform the quote stability calculation and determine the quote instability factor, the Exchange employs a fixed formula utilizing the quote stability coefficients and quote stability variables set forth in Rule 7.31-E(h)(3)(D)(i)(D)(1)(a) and Rule 7.31-E(h)(3)(D)(i)(D)(1)(b), respectively.

³ As defined in NYSE Arca Rule 1.1, "PBBO" means the Best Protected Bid and the Best Protected Offer. Rule 1.1 also defines "PBB" as the highest Protected Bid and "PBO" as the lowest Protected Offer.

⁴ A Pegged Order is a Limit Order that does not route with a working price that is pegged to a dynamic reference price. If the designated reference price is higher (lower) than the limit price of a Pegged Order to buy (sell), the working price will be the limit price of the order. See Rule 7.31-E(h).

Proposed Rule Change

The Exchange proposes to update the quote stability coefficients used in the quote instability calculation, which have not been modified since Rule 7.31-E(h)(3) was adopted.⁵ The proposed changes are intended to update the quote stability coefficients so that they are based on current market data and better calibrated to function on an exchange without an intentional delay mechanism and with deeper liquidity than other exchanges that offer similar functionality.⁶

The Exchange reviewed NYSE Arca market data from randomly selected days in the fourth quarter of 2021 to analyze the effectiveness of the quote stability coefficients in predicting changes to the PBBO. Specifically, the Exchange reviewed PBBO data, on a nanosecond level, for certain intervals throughout each randomly selected day to track changes to quotes on NYSE Arca and away markets. The Exchange used this data to generate and test the proposed quote stability coefficients, and based on its analysis, believes that modifying the quote stability coefficients would enable the Exchange to evaluate the quality of the PBBO more effectively. Specifically, the Exchange sampled market activity from randomly selected days in the fourth quarter of 2021 to simulate the performance of the quote instability calculation using both the current quote stability coefficients and the proposed quote stability coefficients. The Exchange observed that, in situations where the market price moved against the same side of the quote (i.e., the PBB fell or the PBO rose) 10 milliseconds later, the proposed quote stability coefficients, when incorporated into the quote instability

⁵ The Exchange adopted Rule 7.31-E(h)(3) governing Discretionary Pegged Orders in 2016. See Securities Exchange Act Release No. 78181 (June 28, 2016), 81 FR 43297 (July 1, 2016) (SR-NYSEArca-2016-44) (Notice of Filing of Amendment No. 1, and Order Granting Accelerated Approval of a Proposed Rule Change, as Modified by Amendment No. 1, to Add a New Discretionary Pegged Order). Discretionary Pegged Orders (with the current quote stability coefficients) have been available for use on the Exchange since March 21, 2022. See <https://www.nyse.com/trader-update/history#110000415898>.

⁶ The Exchange notes that its rules governing the Discretionary Pegged Order, including the formula for the quote instability calculation, are based on the Investors Exchange LLC (“IEX”) Discretionary Peg Order (“D-Peg Order”), which functions in conjunction with IEX’s speed bump. See id. The Exchange does not anticipate any issues in connection with the introduction of the order type, including because such orders would be processed similarly to Discretionary Pegged Orders on its affiliated exchange, NYSE American LLC (“NYSE American”). NYSE American, which also does not currently function with any intentional delay, offers a Discretionary Pegged Order as set forth in NYSE American Rule 7.31E(h)(3), which is substantially the same as NYSE Arca Rule 7.31-E(h)(3).

calculation, correctly predicted the price change approximately 17% more often than the current quote stability coefficients.

Accordingly, the Exchange believes that the proposed quote stability coefficients would be more accurate than the current quote stability coefficients in identifying changes to the PBBO and thus more effective in protecting Discretionary Pegged Orders from unfavorable executions. The Exchange thus proposes to modify the quote stability coefficients set forth in Rule 7.31-E(h)(3)(D)(i)(D)(1)(a)(i) through (v) as follows:

Quote Stability Coefficient	Current Value	Proposed Value
C0	-2.39515	-1.793885
C1	-0.76504	-0.600796
C2	0.07599	0.0776515
C3	0.38374	0.492649
C4	0.14466	0.1631485

The Exchange believes that its proposed modification of the quote stability coefficients, based on the market data analysis described above, would improve the accuracy of the fixed formula used to perform the quote instability calculation. Specifically, the Exchange believes that the proposed quote stability coefficients, which have been adjusted to reflect more recent activity on the Exchange, would improve the calibration of the quote instability calculation to activity on the Exchange, thereby improving the Exchange's ability to predict whether there is quote instability and protect Discretionary Pegged Orders from exercising discretion when the PBBO is unstable.

Because of the technology changes associated with this proposed rule change, the Exchange will announce the implementation date by Trader Update. Subject to effectiveness of this proposed rule change, the Exchange anticipates that it will implement the proposed quote stability coefficients in the second quarter of 2022.

(b) Statutory Basis

The proposed rule change is consistent with Section 6(b) of the Act,⁷ in general, and furthers the objectives of Section 6(b)(5),⁸ in particular, because it is designed to prevent fraudulent and manipulative acts and practices, to promote just and equitable principles of trade, to foster cooperation and coordination with persons engaged in facilitating transactions in securities, to remove impediments to, and perfect the mechanism of, a free and open market and a national market system and, in general, to protect investors and the public interest.

⁷ 15 U.S.C. 78f(b).

⁸ 15 U.S.C. 78f(b)(5).

The Exchange believes that the proposed change would promote just and equitable principles of trade, remove impediments to, and perfect the mechanism of, a free and open market and a national market system, and protect investors and the public interest because it is designed to increase the effectiveness of the quote instability calculation used to determine whether a crumbling quote exists. As discussed above, the proposed change is based on the Exchange's analysis of market data, which supports that the proposed quote stability coefficients would accurately identify changes to the PBBO more frequently than the current quote stability coefficients and, accordingly, that the proposed change would improve the accuracy of the Exchange's quote instability calculation. Accordingly, the Exchange believes that the proposed change would remove impediments to, and perfect the mechanism of, a free and open market and a national market system, as well as protect investors and the public interest, by enhancing the Exchange's protection of Discretionary Pegged Orders. Specifically, because the proposed quote stability coefficients were derived through an analysis of more recent market data and are calibrated to reflect current activity on the Exchange (including to adapt them to function on an exchange without an intentional delay mechanism and with deeper liquidity than other exchanges that offer similar functionality), the Exchange believes that the proposed change would improve the effectiveness of the quote instability calculation in predicting periods of quote instability and thus enhance the extent to which Discretionary Pegged Orders would be protected from unfavorable executions.

4. Self-Regulatory Organization's Statement on Burden on Competition

The Exchange does not believe that the proposed rule change will impose any burden on competition that is not necessary or appropriate in furtherance of the purposes of the Act. The Exchange believes that the proposed change would promote competition by improving the accuracy of the quote instability calculation, thereby enhancing the protection of Discretionary Pegged Orders from unfavorable executions during periods of quote instability.

5. Self-Regulatory Organization's Statement on Comments on the Proposed Rule Change Received from Members, Participants or Others

The Exchange has neither solicited nor received written comments on the proposed rule change.

6. Extension of Time Period for Commission Action

Not applicable.

7. Basis for Summary Effectiveness Pursuant to Section 19(b)(3) or for Accelerated Effectiveness Pursuant to Section 19(b)(2)

The Exchange respectfully requests accelerated effectiveness of this proposed rule

change pursuant to Section 19(b)(2) of the Act.⁹ The Exchange believes that there is good cause for the Commission to accelerate effectiveness because the proposed rule change is designed to increase the protection of Discretionary Pegged Orders from unfavorable executions during periods of quote instability. As noted above, the Exchange's market data analysis suggests that the proposed quote stability coefficients would identify changes to the PBBO more effectively than the current quote stability coefficients. The Exchange also notes that the proposed change to the quote stability coefficients is not intended to change any functionality or the operation of Rule 7.31-E(h)(3) but would promote investor protection by improving the accuracy of the quote instability calculation and its ability to predict a crumbling quote. The Exchange thus believes that the proposed change—which would enhance an existing feature of the order type—does not raise any novel issues¹⁰ and would improve the effectiveness of the Discretionary Pegged Order and encourage use of the order type.

In addition, the Exchange anticipates that the technology changes associated with the proposed change could be implemented promptly, and accelerated effectiveness would permit the Exchange to implement the proposed modifications to the quote stability coefficients (and provide enhanced protection to Discretionary Pegged Orders) without delay.

⁹ 15 U.S.C. 78s(b)(2).

¹⁰ The Exchange notes that IEX has proposed several changes to components of the quote instability calculation for the D-Peg Order pursuant to Section 19(b)(3)(A). See, e.g., Securities Exchange Act Release Nos. 83048 (April 13, 2018), 83 FR 17467 (April 19, 2018) (SR-IEX-2018-07) (Notice of Filing and Immediate Effectiveness of Proposed Rule Change to Amend Rule 11.190(g) to Incrementally Optimize and Enhance the Effectiveness of the Quote Instability Calculation in Determining Whether a Crumbling Quote Exists); 80202 (March 10, 2017), 82 FR 14058 (March 16, 2017) (SR-IEX-2017-06) (Notice of Filing and Immediate Effectiveness of Proposed Rule Change to Amend Rule 11.190(g) to Modify the Quote Instability Coefficients and Quote Instability Threshold Included in the Quote Stability Calculation Specified in Subparagraph (g)(1) for Purposes of Determining Whether a Crumbling Quote Exists); 78510 (August 9, 2016), 81 FR 54166 (August 15, 2016) (SR-IEX-2016-11) (Notice of Filing and Immediate Effectiveness of Proposed Rule Change to Amend Rule 11.190(g) Related to Discretionary Peg Orders). The Exchange also notes that the use of the Discretionary Pegged Order on an exchange without an intentional delay is not novel, as NYSE American's Discretionary Pegged Order has continued to function effectively since it eliminated its delay mechanism in 2019. See Securities Exchange Act Release No. 87550 (November 15, 2019), 84 FR 64359 (November 21, 2019) (SR-NYSEAMER-2019-48) (Notice of Filing and Immediate Effectiveness of Proposed Rule Change to Amend Exchange Rules 1.1E and 7.29E to Eliminate the Delay Mechanism and Amend Exchange Rule 7.31E and Related Exchange Rules to Re-Introduce Previously-Approved Order Types and Modifiers).

8. Proposed Rule Change Based on Rules of Another Self-Regulatory Organization or of the Commission

Not applicable.

9. Security-Based Swap Submissions Filed Pursuant to Section 3C of the Act

Not applicable.

10. Advance Notices Filed Pursuant to Section 806(e) of the Payment, Clearing and Settlement Supervision Act

Not applicable.

11. Exhibits

Exhibit 1 – Form of Notice of Proposed Rule Change for Federal Register

Exhibit 5 – Text of Proposed Rule Change

SECURITIES AND EXCHANGE COMMISSION

(Release No. 34- ; File No. SR-NYSEARCA-2022-13, Amendment No. 1)

[Date]

Self-Regulatory Organizations; NYSE Arca, Inc.; Notice of Filing of Proposed Rule Change to Amend Rule 7.31-E(h)(3)

Pursuant to Section 19(b)(1)¹ of the Securities Exchange Act of 1934 (the “Act”)² and Rule 19b-4 thereunder,³ notice is hereby given that, on May 10, 2022, NYSE Arca, Inc. (“NYSE Arca” or the “Exchange”) filed with the Securities and Exchange Commission (the “Commission”) the proposed rule change as described in Items I, II, and III below, which Items have been prepared by the self-regulatory organization. The Commission is publishing this notice to solicit comments on the proposed rule change from interested persons.

I. Self-Regulatory Organization’s Statement of the Terms of Substance of the Proposed Rule Change

The Exchange proposes to amend Rule 7.31-E(h)(3) with respect to Discretionary Pegged Orders. This Amendment No. 1 to SR-NYSEArca-2022-13 replaces SR-NYSEArca-2022-13 as originally filed and supersedes such filing in its entirety. The proposed change is available on the Exchange’s website at www.nyse.com, at the principal office of the Exchange, and at the Commission’s Public Reference Room.

¹ 15 U.S.C. 78s(b)(1).

² 15 U.S.C. 78a.

³ 17 CFR 240.19b-4.

II. Self-Regulatory Organization's Statement of the Purpose of, and Statutory Basis for, the Proposed Rule Change

In its filing with the Commission, the self-regulatory organization included statements concerning the purpose of, and basis for, the proposed rule change and discussed any comments it received on the proposed rule change. The text of those statements may be examined at the places specified in Item IV below. The Exchange has prepared summaries, set forth in sections A, B, and C below, of the most significant parts of such statements.

A. Self-Regulatory Organization's Statement of the Purpose of, and the Statutory Basis for, the Proposed Rule Change

1. Purpose

The Exchange proposes to amend Rule 7.31-E(h)(3) to modify certain factors relevant to the quote instability calculation for Discretionary Pegged Orders. The Discretionary Pegged Order is a non-displayed order type that is pegged to the same side of the PBBO.⁴ The price of a Discretionary Pegged Order automatically adjusts as the PBBO moves, and a Discretionary Pegged Order will exercise the least amount of discretion necessary to trade with contra-side interest. A Discretionary Pegged Order will not exercise discretion if the PBBO is determined to be unstable via a quote instability calculation that assesses the probability of a change to the PBB or PBO (as described in further detail below), thereby offering protection against unfavorable executions during periods of quote instability.

⁴ As defined in NYSE Arca Rule 1.1, "PBBO" means the Best Protected Bid and the Best Protected Offer. Rule 1.1 also defines "PBB" as the highest Protected Bid and "PBO" as the lowest Protected Offer.

Specifically, the Exchange proposes to amend Rule 7.31-E(h)(3)(D)(i)(D)(1)(a), which sets forth the quote stability coefficients. Under Rule 7.31-E(h)(3)(D)(i)(D)(3), the Exchange may modify the quote stability coefficients at any time, subject to a filing of a proposed rule change. The Exchange proposes such changes in this rule filing.

Discretionary Pegged Orders

Rule 7.31-E(h)(3) provides for Discretionary Pegged Orders, which are Pegged Orders⁵ that may exercise price discretion from their working price to a discretionary price in order to trade with contra-side orders on the NYSE Arca Book, except during periods of quote instability as defined in Rule 7.31-E(h)(3)(D).

Rule 7.31-E(h)(3)(D) provides that the Exchange uses a quote instability calculation to assess a security's "quote instability factor," or the probability of an imminent change to the current PBB to a lower price or PBO to a higher price.⁶ When quoting activity in a security meets predefined criteria and the quote instability factor calculated is greater than the Exchange's defined "quote instability threshold," the Exchange treats the quote as unstable ("quote instability" or a "crumbling quote").

Rule 7.31-E(h)(3)(D)(i) provides that the Exchange determines a quote to be unstable when, among other factors, the quote instability factor result from the quote stability calculation is greater than the quote instability threshold. To perform the quote stability calculation and determine the quote instability factor, the Exchange employs a

⁵ A Pegged Order is a Limit Order that does not route with a working price that is pegged to a dynamic reference price. If the designated reference price is higher (lower) than the limit price of a Pegged Order to buy (sell), the working price will be the limit price of the order. See Rule 7.31-E(h).

⁶ NYSE Arca Rule 1.1 defines PBB as the highest Protected Bid and PBO as the lowest Protected Offer. Rule 1.1 also provides that "PBBO" means the Best Protected Bid and the Best Protected Offer.

fixed formula utilizing the quote stability coefficients and quote stability variables set forth in Rule 7.31-E(h)(3)(D)(i)(D)(1)(a) and Rule 7.31-E(h)(3)(D)(i)(D)(1)(b), respectively.

Proposed Rule Change

The Exchange proposes to update the quote stability coefficients used in the quote instability calculation, which have not been modified since Rule 7.31-E(h)(3) was adopted.⁷ The proposed changes are intended to update the quote stability coefficients so that they are based on current market data and better calibrated to function on an exchange without an intentional delay mechanism and with deeper liquidity than other exchanges that offer similar functionality.⁸

The Exchange reviewed NYSE Arca market data from randomly selected days in the fourth quarter of 2021 to analyze the effectiveness of the quote stability coefficients in predicting changes to the PBBO. Specifically, the Exchange reviewed PBBO data, on

⁷ The Exchange adopted Rule 7.31-E(h)(3) governing Discretionary Pegged Orders in 2016. See Securities Exchange Act Release No. 78181 (June 28, 2016), 81 FR 43297 (July 1, 2016) (SR-NYSEArca-2016-44) (Notice of Filing of Amendment No. 1, and Order Granting Accelerated Approval of a Proposed Rule Change, as Modified by Amendment No. 1, to Add a New Discretionary Pegged Order). Discretionary Pegged Orders (with the current quote stability coefficients) have been available for use on the Exchange since March 21, 2022. See <https://www.nyse.com/trader-update/history#110000415898>.

⁸ The Exchange notes that its rules governing the Discretionary Pegged Order, including the formula for the quote instability calculation, are based on the Investors Exchange LLC (“IEX”) Discretionary Peg Order (“D-Peg Order”), which functions in conjunction with IEX’s speed bump. See id. The Exchange does not anticipate any issues in connection with the introduction of the order type, including because such orders would be processed similarly to Discretionary Pegged Orders on its affiliated exchange, NYSE American LLC (“NYSE American”). NYSE American, which also does not currently function with any intentional delay, offers a Discretionary Pegged Order as set forth in NYSE American Rule 7.31E(h)(3), which is substantially the same as NYSE Arca Rule 7.31-E(h)(3).

a nanosecond level, for certain intervals throughout each randomly selected day to track changes to quotes on NYSE Arca and away markets. The Exchange used this data to generate and test the proposed quote stability coefficients, and based on its analysis, believes that modifying the quote stability coefficients would enable the Exchange to evaluate the quality of the PBBO more effectively. Specifically, the Exchange sampled market activity from randomly selected days in the fourth quarter of 2021 to simulate the performance of the quote instability calculation using both the current quote stability coefficients and the proposed quote stability coefficients. The Exchange observed that, in situations where the market price moved against the same side of the quote (i.e., the PBB fell or the PBO rose) 10 milliseconds later, the proposed quote stability coefficients, when incorporated into the quote instability calculation, correctly predicted the price change approximately 17% more often than the current quote stability coefficients.

Accordingly, the Exchange believes that the proposed quote stability coefficients would be more accurate than the current quote stability coefficients in identifying changes to the PBBO and thus more effective in protecting Discretionary Pegged Orders from unfavorable executions. The Exchange thus proposes to modify the quote stability coefficients set forth in Rule 7.31-E(h)(3)(D)(i)(D)(1)(a)(i) through (v) as follows:

Quote Stability Coefficient	Current Value	Proposed Value
C0	-2.39515	-1.793885
C1	-0.76504	-0.600796
C2	0.07599	0.0776515
C3	0.38374	0.492649
C4	0.14466	0.1631485

The Exchange believes that its proposed modification of the quote stability coefficients, based on the market data analysis described above, would improve the accuracy of the fixed formula used to perform the quote instability calculation.

Specifically, the Exchange believes that the proposed quote stability coefficients, which have been adjusted to reflect more recent activity on the Exchange, would improve the calibration of the quote instability calculation to activity on the Exchange, thereby improving the Exchange's ability to predict whether there is quote instability and protect Discretionary Pegged Orders from exercising discretion when the PBBO is unstable.

Because of the technology changes associated with this proposed rule change, the Exchange will announce the implementation date by Trader Update. Subject to effectiveness of this proposed rule change, the Exchange anticipates that it will implement the proposed quote stability coefficients in the second quarter of 2022.

2. Statutory Basis

The proposed rule change is consistent with Section 6(b) of the Act,⁹ in general, and furthers the objectives of Section 6(b)(5),¹⁰ in particular, because it is designed to prevent fraudulent and manipulative acts and practices, to promote just and equitable principles of trade, to foster cooperation and coordination with persons engaged in facilitating transactions in securities, to remove impediments to, and perfect the mechanism of, a free and open market and a national market system and, in general, to protect investors and the public interest.

The Exchange believes that the proposed change would promote just and equitable principles of trade, remove impediments to, and perfect the mechanism of, a free and open market and a national market system, and protect investors and the public interest because it is designed to increase the effectiveness of the quote instability

⁹ 15 U.S.C. 78f(b).

¹⁰ 15 U.S.C. 78f(b)(5).

calculation used to determine whether a crumbling quote exists. As discussed above, the proposed change is based on the Exchange's analysis of market data, which supports that the proposed quote stability coefficients would accurately identify changes to the PBBO more frequently than the current quote stability coefficients and, accordingly, that the proposed change would improve the accuracy of the Exchange's quote instability calculation. Accordingly, the Exchange believes that the proposed change would remove impediments to, and perfect the mechanism of, a free and open market and a national market system, as well as protect investors and the public interest, by enhancing the Exchange's protection of Discretionary Pegged Orders. Specifically, because the proposed quote stability coefficients were derived through an analysis of more recent market data and are calibrated to reflect current activity on the Exchange (including to adapt them to function on an exchange without an intentional delay mechanism and with deeper liquidity than other exchanges that offer similar functionality), the Exchange believes that the proposed change would improve the effectiveness of the quote instability calculation in predicting periods of quote instability and thus enhance the extent to which Discretionary Pegged Orders would be protected from unfavorable executions.

B. Self-Regulatory Organization's Statement on Burden on Competition

The Exchange does not believe that the proposed rule change will impose any burden on competition that is not necessary or appropriate in furtherance of the purposes of the Act. The Exchange believes that the proposed change would promote competition by improving the accuracy of the quote instability calculation, thereby enhancing the

protection of Discretionary Pegged Orders from unfavorable executions during periods of quote instability.

C. Self-Regulatory Organization's Statement on Comments on the Proposed Rule Change Received from Members, Participants, or Others

No written comments were solicited or received with respect to the proposed rule change.

III. Date of Effectiveness of the Proposed Rule Change and Timing for Commission Action

Within 45 days of the date of publication of this notice in the Federal Register or within such longer period up to 90 days (i) as the Commission may designate if it finds such longer period to be appropriate and publishes its reasons for so finding or (ii) as to which the self-regulatory organization consents, the Commission will:

- (A) by order approve or disapprove the proposed rule change, or
- (B) institute proceedings to determine whether the proposed rule change should be disapproved.

IV. Solicitation of Comments

Interested persons are invited to submit written data, views, and arguments concerning the foregoing, including whether the proposed rule change is consistent with the Act. 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 SR-NYSEARCA-2022-13 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 SR-NYSEARCA-2022-13. 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 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 10:00 a.m. and 3:00 p.m. Copies of the filing also will be available for inspection and copying at the principal office of the Exchange. 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 SR-NYSEARCA-2022-13 and should be submitted on or before [insert date 21 days from publication in the Federal Register].

For the Commission, by the Division of Trading and Markets, pursuant to delegated authority.¹¹

Eduardo A. Aleman
Deputy Secretary

¹¹ 17 CFR 200.30-3(a)(12).

Additions: Underlined
 Deletions: [Bracketed]

Rules of NYSE Arca, Inc.

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Rule 7-E EQUITIES TRADING

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Section 3. NYSE Arca Marketplace

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Rule 7.31-E. Orders and Modifiers

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(h) **Pegged Orders.** A Limit Order that does not route with a working price that is pegged to a dynamic reference price. If the designated reference price is higher (lower) than the limit price of a Pegged Order to buy (sell), the working price will be the limit price of the order.

* * * * *

(3) **Discretionary Pegged Order.** A Pegged Order to buy (sell) that upon entry to the NYSE Arca Marketplace is assigned a working price equal to the lower (higher) of the midpoint of the PBBO (“Midpoint Price”) or the limit price of the order. Any untraded shares of such order are assigned a working price equal to the lower (higher) of PBB (PBO) or the order’s limit price and is automatically adjusted in response to changes to the PBB (PBO) for buy (sell) orders up (down) to the order’s limit price. In order to trade with contra-side orders on the NYSE Arca Book, a Discretionary Pegged Order to buy (sell) will exercise the least amount of price discretion necessary from its working price to its discretionary price (defined as the lower (higher) of the Midpoint Price or the Discretionary Pegged Order’s limit price), except during periods of quote instability, as defined in paragraph (h)(3)(D) below.

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(D) **Quote Stability.** The Exchange utilizes real-time relative quoting activity of protected quotations and a mathematical calculation (the “quote instability calculation”) to assess the probability of an imminent change to the current PBB to a lower price or PBO to a higher price for a particular security (“quote instability factor”). When the quoting activity meets predefined criteria and the quote instability factor calculated is greater than the Exchange’s defined threshold (“quote instability threshold”), the Exchange treats the quote as not stable (“quote instability” or a “crumbling quote”). During all other times, the

quote is considered stable (“quote stability”). The Exchange independently assesses the stability of the PBB and PBO for each security.

- (i) **Crumbling Quote.** When the Exchange determines a quote, either the PBB or the PBO, is unstable, the determination remains in effect at that price level for ten (10) milliseconds. The Exchange will only treat one side of the PBBO as unstable in a particular security at any given time. Quote instability or a crumbling quote is determined by the Exchange when following factors occur:

* * * * *

- (D) the quote instability factor result from the quote stability calculation is greater than the defined quote instability threshold.

- (1) **Quote Instability Factor.** The quote stability calculation used to determine the current quote instability factor is defined by the following formula that utilizes the quote stability coefficients and quote stability variables defined below: $1 / (1 + e^{-(C0 + C1 * N + C2 * F + C3 * N-1 + C4 * F-1)})$

- (a) **Quote Stability Coefficients.** The Exchange utilizes the values below for the quote stability coefficients.

- (i) $C0 = [-2.39515]\underline{-1.793885}$
- (ii) $C1 = [-0.76504]\underline{-0.600796}$
- (iii) $C2 = [0.07599]\underline{0.0776515}$
- (iv) $C3 = [0.38374]\underline{0.492649}$
- (v) $C4 = [0.14466]\underline{0.1631485}$

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