UNITED STATES OF AMERICA
Before the
SECURITIES AND EXCHANGE COMMISSION

SECURITIES ACT OF 1933
Release No. 10463 / March 6, 2018

SECURITIES EXCHANGE ACT OF 1934
Release No. 82808 / March 6, 2018

ADMINISTRATIVE PROCEEDING
File No. 3-18388

In the Matter of **New York Stock Exchange LLC, NYSE American LLC, and NYSE Arca, Inc.,** **Respondents.**	**ORDER INSTITUTING ADMINISTRATIVE AND CEASE-AND-DESIST PROCEEDINGS PURSUANT TO SECTION 8A OF THE SECURITIES ACT OF 1933, SECTIONS 19(h)(1) AND 21C OF THE SECURITIES EXCHANGE ACT OF 1934, MAKING FINDINGS, AND IMPOSING REMEDIAL SANCTIONS AND A CEASE-AND-DESIST ORDER**

I.

The Securities and Exchange Commission ("Commission") deems it appropriate and in the public interest that public administrative and cease-and-desist proceedings be, and hereby are, instituted pursuant to Section 8A of the Securities Act of 1933 ("Securities Act") and Sections 19(h)(1) and 21C of the Securities Exchange Act of 1934 ("Exchange Act") against New York Stock Exchange LLC ("NYSE"), NYSE American LLC ("American"), and NYSE Arca, Inc. ("Arca") (collectively, "Respondents" or "NYSE Exchanges").

II.

In anticipation of the institution of these proceedings, Respondents have submitted Offers of Settlement (the "Offers"), which the Commission has determined to accept. Solely for the purpose of these proceedings and any other proceedings brought by or on behalf of the Commission, or to which the Commission is a party, and without admitting or denying the findings herein, except as to the Commission's jurisdiction over them and the subject matter of these proceedings, which are admitted, Respondents consent to the entry of this Order Instituting Administrative and Cease-and-Desist Proceedings Pursuant to Section 8A of the Securities Act of 1933, Sections 19(h)(1) and 21C of the Securities Exchange Act of 1934, Making Findings, and Imposing Remedial Sanctions and a Cease-and-Desist Order ("Order"), as set forth below.

III.

On the basis of this Order and Respondents' Offers, the Commission finds that:

IV.

Summary

This matter involves several episodes in which the NYSE Exchanges engaged in certain business practices without having in place required and effective rules; operated in a manner that did not comply with the exchange rules then in effect; and/or operated in a manner that did not comply with the federal securities laws. The NYSE Exchanges engaged in this conduct in the following instances, which included several disruptive market events:

- NYSE and American's July 8, 2015 Trading Halt: On July 8, 2015, two of the NYSE Exchanges suspended intra-day trading for approximately three and one-half hours (the "Shutdown"). During the 47 minutes before the Shutdown, NYSE and American experienced escalating connectivity problems between their trading units and the communications "gateways" used by customers, which eventually prevented many customers from being able to consistently access quotations in a majority of the symbols traded on these exchanges ("Impaired Symbols"). As a result, quotations in the Impaired Symbols were no longer automated. Nonetheless, during this time period, NYSE and American continued to disseminate quotations for the Impaired Symbols marked as "automated." The quotations that were inaccurately identified as automated after these exchanges had reason to believe otherwise constituted negligent misrepresentations of material facts to market participants in violation of Section 17(a)(2) of the Securities Act.

- Arca's Use of Price Collars During the August 24, 2015 ETF Market Volatility: U.S. equity and equity-related futures markets experienced unusual volatility on August 24, 2015. The volatility led to a total of 1,278 Limit-Up/Limit-Down ("LULD") trading pauses on five exchanges. Arca, which was the primary listing exchange for more than 85% of these exchange traded products ("ETPs"), including exchange traded funds ("ETFs"), had 999 (or 78%) of the LULD pauses, of which 697 were repeat pauses in securities that were reopened after their first pause of the day. Many of these repeat halts were caused, at least in part, because Arca applied price collars to reopening auctions that followed LULD pauses. By applying these price collars, Arca's order imbalances on reopening auctions resolved more slowly than they would have with wider or no reopening collars and potentially limited the extent to which the prices of reopened issues could adjust to changing conditions without triggering additional LULD halts. Arca violated Section 19(b)(1) of the Exchange Act because its rules described price collars for opening and closing auctions, but not for reopening auctions. Arca also violated Section 19(g)(1) because it did not comply with its rules regarding reopening auctions.

- Arca's Erroneous March 31, 2015 Trading Halt: On the morning of March 31, 2015, Arca erroneously implemented a market-wide regulatory halt that stopped all trading of 134 Arca-listed securities on all exchanges. Arca lifted the market-wide halt after approximately 20 minutes and resumed its own trading approximately two hours later, but could not publish closing auction order imbalance information. As a result, Arca violated Rule 608(c) of Regulation NMS by imposing a market-wide halt in violation of a national market system plan, and Section 19(g)(1) of the Exchange Act by violating its own rule that required Arca to publish closing order imbalance information.

- <u>NYSE and American's Failure to Comply with Reg SCI's Business Continuity and Disaster Recovery Requirements</u>: Regulation Systems Compliance and Integrity ("Reg SCI") requires national securities exchanges and other SCI entities to have business continuity and disaster recovery ("BC/DR") plans that provide for certain "reasonably designed" backup and recovery capabilities. For approximately one year following Reg SCI's November 3, 2015 effective date, NYSE and American, in a wide-scale disruption, would have relied on the backup systems of Arca for trading in NYSE- and American- listed symbols. NYSE and American accordingly lacked the required policies and procedures for "reasonably designed" backup and recovery capabilities and therefore violated Reg SCI Rules 1001(a)(1) and 1001(a)(2)(v).

- <u>NYSE and American's Failure to State Material Aspect of Operation of Exchange Order Types</u>: From 2008 to 2015, the interaction between two order-types on NYSE and American—pegging orders and non-displayed reserve orders—created the possibility that floor brokers' pegging orders could in certain circumstances detect the presence (but not the quantity) of non-displayed depth liquidity on the exchanges' order books. This potential behavior was a material aspect of the operation of the exchanges, but it was not described in any effective rules of NYSE or American during this period, despite a customer complaint that brought the potential behavior to the exchanges' attention. As a result, NYSE and American violated Section 19(b)(1) of the Exchange Act.

<u>Respondents</u>

1. **<u>New York Stock Exchange LLC</u>** is a national securities exchange registered with the Commission pursuant to Section 6 of the Exchange Act. NYSE is a New York limited liability company and an indirect, wholly-owned subsidiary of Intercontinental Exchange, Inc. ("ICE"). The Commission previously has brought enforcement actions against NYSE. Most recently, in 2014, the Commission found that NYSE, American, and Arca violated Sections 19(b)(1) and 19(g)(1) of the Exchange Act for failing to have effective rules relating to co-location services, operation of a block trading facility and error account, and distribution of closing order imbalance information, among other things, and ordered them to cease and desist from committing or causing any violations and any future violations of Sections 19(b)(1) and 19(g)(1). *In the Matter of New York Stock Exchange LLC, NYSE Arca, Inc., NYSE MKT LLC f/k/a/ NYSE Amex LLC, and Archipelago Securities, LLC*, Exchange Act Release No. 72065 (May 1, 2014) ("2014 Order").

2. **<u>NYSE American LLC (f/k/a NYSE MKT LLC)</u>** is a national securities exchange registered with the Commission pursuant to Section 6 of the Exchange Act. American

currently is a Delaware limited liability company and an indirect, wholly-owned subsidiary of ICE. As noted *supra*, the Commission also brought a case against NYSE MKT LLC in 2014.

3. **NYSE Arca, Inc**. is a national securities exchange registered with the Commission pursuant to Section 6 of the Exchange Act. Arca is a Delaware corporation and an indirect, wholly-owned subsidiary of ICE. As noted *supra*, the Commission also brought a case against Arca in 2014.

Facts

A. On July 8, 2015, NYSE and American Negligently Represented That Their Quotations Were Automated When They Were Not

Regulation NMS's Legal Framework for Automated Trading Centers

4. Rules 600(b)(4)(ii) and (iii) of Regulation NMS define an "automated trading center" as a trading center that "[i]dentifies all quotations other than automated quotations as manual quotations" and "[i]mmediately identifies its quotations as manual quotations whenever it has reason to believe that it is not capable of displaying automated quotations." To be considered an automated trading center, Rule 600(b)(4)(iv) of Regulation NMS also requires that the trading center "adopt[] reasonable standards limiting when its quotations change from automated quotations to manual quotations, and vice versa, to specifically defined circumstances that promote fair and efficient access to its automated quotations and are consistent with the maintenance of fair and orderly markets." NYSE and American receive payments for transmitting certain automated quotations to the Securities Information Processors ("SIP").[1]

5. Rule 600(b)(57) of Regulation NMS defines "protected bid or protected offer" as "a quotation in an NMS stock" that is: (i) "displayed by an automated trading center"; (ii) "disseminated pursuant to an effective national market system plan"; and (iii) is an "automated quotation that is the best bid or best offer" of a national securities exchange or another relevant market participant. Rule 600(b)(58) of Regulation NMS defines "protected quotation" as a "protected bid or a protected offer."

6. Rule 611 under Regulation NMS (the "Order Protection Rule") generally obligates trading centers to honor the "protected quotations" of other trading centers by not executing trades at inferior prices, or "trading through" such protected quotations. Only an "automated trading center" displaying "automated quotations" is entitled to this protection.

7. Following input specifications provided by the network processor for the consolidated quote system, NYSE and American used the condition code "R" (Regular) to indicate that a quotation was automated. On July 8, 2015, however, NYSE and American did not have reasonable standards specifying the circumstances in which these exchanges could no longer identify quotations in particular symbols as automated.

[1] An exchange's share of market data revenue collected by a SIP is calculated annually according to a formula that includes, among other factors, the exchange's share of automated, but not manual, quotations transmitted to the SIP that equal the price of the national best bid or offer for at least one full second. For NYSE and American, this pro-rata revenue share for the relevant time period on July 8, 2015 (10:45 a.m. to 11:32 a.m.) was approximately $9,000.

NYSE and American Negligently Marked Quotations as Automated When They Had "Reason to Believe" They Were Not Capable of Displaying Automated Quotations

8. Beginning at approximately 10:45 a.m. on July 8, 2015, NYSE and American experienced escalating connectivity problems between their trading units and customer gateways. The exchanges received numerous internal and external notifications that showed that the connectivity problems were continuing.

9. From 10:45 a.m., the exchanges' internal monitoring systems began issuing alerts that showed connectivity problems between certain trading units and customer gateways. Multiple staff at the exchanges received these alerts. Over the next 47 minutes — until the 11:32 a.m. Shutdown — the exchanges' internal monitoring systems issued an increasing number of alerts illustrating that the connectivity problems had spread to numerous trading units and customer gateways.

10. As reflected in the internal alerts, by 11:14 a.m., 22 out of the exchanges' 25 primary trading units had been experiencing connectivity problems to various customer gateways. That meant that if a customer was attempting to connect through a gateway that had lost connectivity to a trading unit, the customer could not access quotations in symbols handled on the affected trading unit. As a result, by 11:14 a.m., customers' ability to access quotations had been affected for the majority of the symbols traded on the exchanges.

11. NYSE and American also received multiple external notifications that further put the exchanges on notice of the escalating issues. First, starting at 10:51 a.m., several other trading centers and market participants began declaring "self-help" against NYSE and American and/or halted order routing to these exchanges. Additionally, beginning at approximately 10:45 a.m. and until the Shutdown, several of the exchanges' members also contacted the exchanges about their individual connectivity problems.

12. By 11:07 a.m., senior staff in the exchanges' systems operations group believed that the exchanges were experiencing persistent gateway and trading unit connectivity issues. At approximately 11:17 a.m., the exchanges launched an internal conference call pursuant to their incident response procedures in which senior management discussed the ongoing connectivity problems and a possible suspension of trading. At approximately 11:27 a.m., the President of the exchanges ordered a full trading suspension, which took effect at approximately 11:32 a.m.

13. For a significant portion of the time period before the Shutdown, NYSE and American therefore had "reason to believe" that they were "not capable of displaying automated quotations" consistent with Regulation NMS Rule 600(b)(4)(iii) for the Impaired Symbols. During this timeframe, the exchanges did not meet the definition of an "automated trading center" under Rule 600(b)(4) of Regulation NMS because they did not have reasonable standards specifying the circumstances in which the exchanges could no longer identify quotations as automated and did not immediately identify quotations as manual quotations when they had reason to believe that they were not capable of displaying automated quotations.

14. During that timeframe, NYSE and American continued to transmit quotations for the Impaired Symbols with quote condition "R," indicating they were still automated even

though the connectivity problems rendered them inaccessible. At no point did the exchanges identify those quotations as manual or suspend trading in the Impaired Symbols. Thus, the exchanges negligently represented to market participants, including broker-dealers routing orders on behalf of their customers, that their quotations for the Impaired Symbols were automated quotations entitled to trade-through protection under Rule 611, which was not true. As a result, the condition codes transmitted by the exchanges for quotations in the Impaired Symbols constituted negligent misrepresentations or omissions of material fact to such market participants.

15. By marking the quotations for the Impaired Symbols with quote condition R, NYSE and American also indicated that the quotations qualified as "protected quotations" under Rule 611, even though they did not meet the definitions set forth in Rule 600(b)(57) and should not have received the trade-through protections of Rule 611.

16. After the events of July 8, 2015, NYSE and American adopted standards under Rule 600(b)(4)(iv) for determining if customer connectivity is insufficient to maintain automated quotations and, if such a determination is made, to suspend trading.

B. Arca Improperly Applied Price Collars to Reopening Auctions During August 24, 2015 Market Volatility

17. On August 24, 2015, following an overnight decline of more than 8% in the Shanghai Composite stock index, U.S. equity and equity-related futures markets experienced unusual price volatility. Prices of equities and ETPs were particularly volatile during the period surrounding the 9:30 a.m. ET start of regular trading. The extreme volatility led to a total of 1,278 LULD trading pauses on five exchanges (BATS, NASDAQ, NYSE, Arca, and American).[2] Arca, which was the primary listing exchange for more than 85% of these ETPs, had 999 (or 78%) of the LULD pauses, of which 697 were repeat pauses in securities that already had experienced one pause that day. The volatility and pauses generated widespread market attention.[3]

18. On August 24, 2015, Arca applied price collars to reopening auctions conducted to resume trading after LULD pauses, using the following thresholds: 1% for stocks with prices over $50.00, 2% for stocks with prices from $25.01 to $50.00, and 5% for stocks with prices $25.00 and under (referred to as "1-2-5%" collars).[4] Calculation of the collars was based on the last trade prior to the auction.

[2] Limit-up/limit-down trading pauses are required by a national market system plan to address market volatility that the Commission approved in 2011. The plan has been amended several times since then.
[3] For more information about this trading event, see generally, *Equity Market Volatility on August 24, 2015*, Research Note by the Staff of the Office of Analytics and Research, Division of Trading and Markets, December 2015, available at https://www.sec.gov/marketstructure/research/equity_market_volatility.pdf; and Austin Gerig and Keegan Murphy, Division of Economic and Risk Analysis, *The Determinants of ETF Trading Pauses on August 24th, 2015*, February 2016, available at https://www.sec.gov/files/feb2016-white-paper-determinants-etf-trading-pauses.pdf.
[4] Arca calculated the trading collar price based on the specified percentage away from the consolidated last sale price.

19. Because of the 1-2-5% collars that were applied during the reopening auctions, the volume of shares available for execution in the reopening auctions was less than would have been available if wider collars, or no collars, had been in effect. On August 24, 2015, because the 1-2-5% price collars limited the extent to which trading could reopen at prices reflecting changing supply and demand, some market orders and limit orders could not be executed until multiple reopening auctions occurred. While Arca did not delay reopenings based on unmatched market orders, these orders were not cancelled, and they remained on the order book when continuous trading resumed after the auction, often creating an imbalance of supply and demand that triggered additional LULD pauses, both on the lower end as prices fell and on the upper end as prices rebounded. The 1-2-5% collars therefore led to more repeat LULD pauses than would have occurred if wider collars (or no collars) had been in effect. Of the 302 securities listed on Arca that experienced at least one LULD pause that day, 201 (or 67%) experienced multiple pauses.

20. Arca's application of price collars to reopening auctions was a material operation of the exchange that should have been the subject of an effective exchange rule. On August 24, 2015, however, Arca described opening and closing auction collars in its rules, but did not include reopening auction collars in its rules. Arca's failure to have an effective exchange rule regarding the application of price collars to reopening auctions violated Section 19(b)(1) of the Exchange Act.

21. Arca's application of price collars to LULD reopening auctions also violated Section 19(g)(1) of the Exchange Act because Arca's rules in place on August 24, 2015 regarding reopening auctions stated that the reopening price would be determined by the indicative match price in the auction and did not provide for the application of any collars to the reopening price. By applying 1-2-5% collars, Arca failed to follow its own rules for determining the price in reopening auctions in violation of Section 19(g)(1) of the Exchange Act.

22. Arca remediated the gap in its rules following the market events of August 24, 2015. Arca promptly engaged in discussions with Commission staff concerning a proposed rule amendment to reflect the exchange's use of collars in reopening auctions, and filed a rule proposal on December 7, 2015. The Commission approved it on January 28, 2016.

C. On March 31, 2015, Arca Erroneously Implemented a Regulatory Halt and Failed to Publish Closing Order Imbalance Information

<u>Erroneous Regulatory Halt</u>

23. At approximately 10:05 a.m. on March 31, 2015, the trade process on one of Arca's trading units entered a software loop while processing an order. While in the loop state, the trade process sent 212 million extraneous messages to Arca's market data publishing application, which accumulated the messages in a queue.

24. Over the next approximately 20 minutes, Arca unsuccessfully attempted to clear the queue. Thereafter, Arca decided to suspend trading at Arca in the 134 affected symbols, for which it was the primary listing exchange, while it addressed the issue by clearing all live orders. At that time, Arca issued the following informational message to the market: "NYSE Arca is

currently unavailable in Tape B symbol range UTG - ZSML. All live orders, with the exception of GTC orders, will be canceled in impacted symbols."

25. Although Arca intended to suspend trading only on Arca, which would allow trading of Arca-listed securities to continue on other exchanges, Arca inadvertently implemented a "regulatory halt" that stopped trading in the 134 Arca-listed securities on all exchanges. Arca personnel mistakenly implemented this regulatory halt because the system operations team incorrectly consulted and ran commands for a "halt procedure" in Arca's runbook that triggered the distribution of a message to all market centers that a regulatory halt was in effect for all 134 securities.

26. Section XI(a) of the Consolidated Tape Association ("CTA") Plan, which is the national market system plan for disseminating consolidated information about transactions in stocks listed on exchanges other than NASDAQ, provides for regulatory halts in two scenarios: (1) when there are "matters relating to such security or the issuer thereof, which have not been adequately disclosed to the public," (*i.e.*, news dissemination), or (2) when "there are regulatory problems relating to such security which should be clarified before trading therein is permitted to continue" (*e.g.*, an SEC-ordered trading suspension). The CTA Plan does not authorize the imposition of a market-wide regulatory halt in response to technical problems such as those Arca experienced on March 31, 2015. Arca's imposition of a regulatory halt, even though mistaken, therefore violated the CTA Plan. This violation was, in turn, a violation of Rule 608(c) of Regulation NMS, which requires a national securities exchange, as a self-regulatory organization, to comply with national market system plans of which it is a sponsor or participant.

<u>Failure to Publish Closing Order Imbalance Information</u>

27. At 10:46 a.m., approximately 20 minutes after imposing the mistaken market-wide regulatory halt, Arca lifted that halt and implemented the correct Arca-specific trading suspension. Later, at approximately 12:19 p.m., Arca lifted the trading suspension and resumed trading in the affected securities. At that time, Arca issued the following informational message: "All systems are functioning normally in Tape B symbols UTG - ZSML as of 12:19 p.m. ET. Customers are advised to use the SIP feed for market data and not rely on the Arcabook feed for the remainder of the day for Tape B symbol range UTG - ZSML." Arca issued this notification because Arca's proprietary feed Arcabook had been impaired by the restart of Arca's market data publisher to resolve the underlying technical issue.

28. Former Arca Rule 7.35(e),[5] which was in effect at the time, required Arca to publish the following information for traders "via electronic means" in advance of the daily closing auction for each Arca-listed security: (i) the best price at which the maximum volume of shares would be traded in the auction based on orders received as of that time (the "Indicative Match Price"); (ii) the number of shares that would trade at that price ("volume available to trade at such price"); and (iii) the imbalance between buy and sell orders that would not execute if the auction were conducted at that price (the "Total Imbalance and Market Imbalance"). Arca's rules required publication of this data beginning at 3:00 p.m. ET and would then update the data in real time thereafter.

[5] The rule has since been amended and renumbered as Arca Rule 7.35(d).

29. Because the Arcabook proprietary feed was unavailable, Arca was unable to distribute order imbalance information or indicative match pricing information via that feed in advance of the closing auctions in compliance with former Arca Rule 7.35(e).

30. Arca's decision to run the closing auctions without first disseminating the required information via Arca's proprietary feed had negative consequences. The price of at least eight heavily traded ETFs varied significantly from the values of their underlying securities. The impact of these closing prices was heightened by the outage having occurred on the last day of a quarter, a day that investment companies report the quarter end values of their holdings based on closing price.

31. By not disseminating the required information via Arca's proprietary feed, Arca violated former Arca Rule 7.35(e) and, in turn, Section 19(g)(1) of the Exchange Act, which requires exchanges to comply with their own rules.

32. Arca took remedial action after the events of March 31, 2015. It revised its operating procedures to clearly distinguish the processes to be used to implement regulatory and non-regulatory halts, and participated in an industry initiative to allow exchanges to serve as designated backups for one another when a primary listing exchange is unable to hold a closing auction, and to establish a time during the trading day by which Arca (and other NYSE Exchanges) determine whether to hold a closing auction or rely on its backup exchange.

D. NYSE and American Failed to Comply with Reg SCI's Business Continuity and Disaster Recovery Requirements

<u>NYSE and American's Obligations to Comply with Reg SCI's BC/DR Requirements</u>

33. The Commission proposed Reg SCI in March 2013, and adopted it in December 2014, to require in relevant part that key market participants have policies and procedures to help ensure the robustness and resiliency of their technology systems.[6] Rule 1001(a)(1) of Reg SCI provides that "[e]ach SCI entity shall establish, maintain, and enforce written policies and procedures reasonably designed to ensure that its SCI systems and, for purposes of security standards, indirect SCI systems, have levels of capacity, integrity, resiliency, availability, and security, adequate to maintain the SCI entity's operational capability and promote the maintenance of fair and orderly markets."[7]

34. Rule 1001(a)(2)(v) of Reg SCI in turn states that the policies and procedures required by Rule 1001(a)(1) for each SCI entity must encompass "at a minimum" seven enumerated topics, one of which is "[b]usiness continuity and disaster recovery plans that include maintaining backup and recovery capabilities sufficiently resilient and geographically diverse and that are reasonably designed to achieve next business day resumption of trading and

[6] *See Regulation Systems Compliance and Integrity*, Final Rule Release, 79 Fed. Reg. 72252, 72253 (Dec. 5, 2014).
[7] Reg SCI Rule 1000 defines "SCI entity" as an SCI self-regulatory organization, SCI alternative trading system, plan processor, or exempt clearing agency subject to the Commission's Automation Review Policies and defines "SCI systems" as "all computer, network, electronic, technical, automated, or similar systems of, or operated by or on behalf of, an SCI entity that, with respect to securities, directly support trading, clearance, and settlement, order routing, market data, market regulation, or market surveillance."

two-hour resumption of critical SCI systems following a wide-scale disruption."[8] Rule 1001(a)(2)(v).

35. Because NYSE and American each meet the definition of an SCI entity, each of these exchanges must comply with Rules 1001(a)(1) and 1001(a)(2)(v). The effective date for Reg SCI was February 3, 2015, and the compliance date for the relevant provisions relating to BC/DR plans was November 3, 2015.

NYSE and American's Failure to Comply with Reg SCI's Business Continuity and Disaster Recovery Requirements

36. NYSE, American, and Arca maintain separate primary trading systems. Each of these systems is located in a Mahwah, New Jersey data center ("Mahwah"). The NYSE Exchanges' backup systems are located at a data center in Chicago, Illinois ("Chicago").

37. Under the BC/DR plans in effect for NYSE and American from November 3, 2015 to November 23, 2016 (the "Relevant Period"), in the event of a "wide-scale disruption" that rendered NYSE and American unable to operate from Mahwah, the NYSE and American platforms would not operate. Instead, NYSE and American would rely on the Arca backup system in Chicago.

38. Under these plans, the Arca backup platform would perform the opening and closing auctions for NYSE and American, with those prints sent to the consolidated tape labeled as NYSE trades or American trades. The Arca backup system in Chicago would also send all intraday primary market regulatory messages for NYSE and American. During the trading day, trades of NYSE- and American-listed securities on the Arca platform would occur pursuant to Arca rules and be sent to the consolidated tape labeled as Arca trades. There would be no NYSE- or American-labeled trades reported intraday to the consolidated tape.

39. From November 3, 2015 through November 23, 2016, NYSE and American were in violation of the requirements in Rules 1001(a)(1) and 1001(a)(2)(v) of Reg SCI that each SCI entity have policies and procedures reasonably designed to ensure operational capability, and that these policies and procedures must include BC/DR plans reasonably designed to achieve next business day resumption of trading and two-hour resumption of critical SCI systems.

E. NYSE and American's Rules Failed to State That Pegging Interest Orders Created Possibility of Detection of Prices of Non-Displayed Depth Liquidity

40. In 2006, the Commission approved NYSE's proposed rule change filing to provide for "pegging interest" orders ("PIs"), which permitted floor brokers to participate in a rapidly changing best bid/offer ("BBO") by "pegging" their orders to the prevailing quote, which

[8] Reg SCI Rule 1000 defines "critical SCI systems" as any SCI systems of, or operated by or on behalf of, an SCI entity that: (1) Directly support functionality relating to: (i) Clearance and settlement systems of clearing agencies; (ii) Openings, reopenings, and closings on the primary listing market; (iii) Trading halts; (iv) Initial public offerings; (v) the provision of consolidated market data; or (vi) Exclusively-listed securities; or (2) Provide functionality to the securities markets for which the availability of alternatives is significantly limited or nonexistent and without which there would be a material impact on fair and orderly markets.

kept their interest in the quote even as the quote moved.[9] Through the use of PIs, floor brokers could designate a range of prices within which their PIs could peg and, as long as the BBO was within that range, their orders would be included in the quote. If the BBO was outside of the range set for the PI, however, the PI would price at the level next closest to the quote, but within the PI's range, where other interest (*i.e.*, another order) existed.[10] PIs operated on the same side only, meaning that buy-side orders pegged to the best bid, and sell-side orders pegged to the best offer.

41. In late 2008, the Commission approved proposed rule changes filed by NYSE and American to provide for "non-displayed reserve orders" ("NDROs"), which were presented as the first "fully dark" order type available at the exchanges because such orders did not require a minimum displayable quantity. Prior to the introduction of the NDRO, reserve orders[11] at NYSE and American were required to display a minimum of one round lot (*i.e.*, 100 shares), with any remaining interest in excess of 100 shares being undisplayed. At the time, other exchanges already had order types similar to NYSE and American's NDRO.

42. PIs were originally designed to peg at a price level where other interest existed, and that interest, as of late 2008, could include NDROs. A PI's ability to peg to the price level of a NDRO created the possibility that a floor broker, or a customer who submitted a PI through a floor broker, that sent the PI, would be able to detect the presence of same side non-displayed depth liquidity if certain circumstances were present. The possibility of detection of same side non-displayed depth liquidity could only occur if (a) the reference BBO was outside of a PI's price range, and (b) the top (or bottom) of that pricing range (i) had no displayed interest on the relevant exchange, (ii) no protected bids or offers on away markets (once PIs began pegging to the NBBO after November 2009), and (iii) was only occupied by one or more NDROs on the exchange's order book. In these instances, the PI would peg to the price level of that NDRO, which would be at a price level inferior to the exchange's quote, and the PI would be displayed at the NDRO's price level in the exchange's depth of book market data feed.

43. During the relevant time, exchange depth of book market data feeds indicated the aggregate quantity of displayable interest available at a price level (but not the identity of the submitters, the number, or the types, of orders at the price level), and submitters of PIs did not receive any confirmation about where their PIs priced. However, under certain circumstances, the submitter of the PI could potentially use identifying characteristics of its PI to locate it in the market data feed displayed at a price that did not previously have any displayed liquidity (because the NDRO was undisplayed), and if so located, conclude that there was same side non-

[9] In late 2008, shortly after NYSE acquired American, American's equity trading systems and trading system rules were moved onto the NYSE technology platform and rule set, including PI. *See* Exchange Act Release No. 58265 (July 30, 2008), 73 FR 46075 (Aug. 7, 2008) (SR-Amex-2008-63).

[10] Beginning in 2009, PIs began to peg to the National Best Bid or Offer ("NBBO") as opposed to the BBO on the relevant exchange (whether NYSE or American), and accordingly could peg to a price level established by interest on the relevant exchange or the price level established by a protected bid or offer on an away market. *See* Exchange Act Release No. 61072 (Nov. 30, 2009), 74 FR 64103 (Dec. 7, 2009) (SR-NYSE-2009-106).

[11] Former NYSE Rule 13 defined a "Reserve Order" as a "limit order with a portion of the size displayed and with a portion of the size (reserve size) that is not displayed, but is to be used to replenish the displayed size when executions of the displayed size reduce the displayed portion below the size designated to be displayed. . . . ." Exchange Act Release No. 57688 (Apr. 18, 2008), 73 FR 22194 (Apr. 24, 2008) (SR-NYSE-2008-30).

displayed depth liquidity at that price level. The floor broker and/or customer would not be able to determine the quantity of that undisplayed liquidity.

44. NYSE and American's rules for PIs and NDROs did not clearly explain that a PI could peg to an NDRO, nor that the effect could be the potential detection of the existence of same side NDROs at that price level. For example, since November 2009, the applicable NYSE rules stated that a PI could peg to "the highest price at which there is other interest within its pegging price range," or that a PI order shall peg to "the next available best-priced interest" within its specified price range.[12] NYSE and American did not file proposed rules to define "next available best-priced interest" to include both displayed and non-displayed interest until 2014.

45. The possibility that a PI could reveal the existence (but not the quantity) of same side NDROs at a price level arose in the very limited circumstances described above. There is no indication that floor brokers or their customers intentionally used PIs to detect the presence of same side NDROs. However, in 2013, NYSE received a complaint from a trader that the price levels of his NDROs, which were entered at prices inferior to the quote and unoccupied by any displayed liquidity, were being joined upon entry, as the trader observed in the exchange depth of book market data feed, by a displayed order. NYSE staff investigated the trader's complaint and learned that the behavior the trader had observed in the exchange depth book market data feed was a displayed PI pegging to the price level of the trader's NDRO in the order book. NYSE staff further investigated this behavior as a possible system defect but concluded that the system had operated according to specifications because the PI had joined the trader's NDRO when the PI could not peg to the quote, and the NDRO was the next available best-priced interest within the PI's pegging range. NYSE staff closed the incident and took no further action.

46. Neither NYSE or American responded to the customer's complaint at that time by taking steps to amend NYSE's or American's rules to reflect that PIs potentially could be used to detect the presence of same side non-displayed depth liquidity.

47. NYSE and American eventually each filed a rule proposal to explain that the "next available best-priced interest" to which PIs could peg included NDROs in November 2014, but they withdrew the filings in February 2015 after the Commission instituted proceedings to determine whether to approve or disapprove American's rule proposal.[13] In March 2015, both NYSE and American proposed rule changes, which the Commission approved, to modify the functionality of PIs so that they only pegged to price levels occupied by displayable interest.[14]

48. NYSE and American violated Section 19(b)(1) of the Exchange Act from 2013 to 2015 by having an order type that created the then-known possibility of detecting the presence of

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[12] *See, e.g.*, Exchange Act Release Nos. 61072 (Nov. 30, 2009), 74 FR 64103 (Dec. 7, 2009) (SR-NYSE-2009-106); 66031 (Dec. 22, 2011), 76 FR 82024 (Dec. 29, 2011) (SR-NYSE-2011-62).

[13] *See* Exchange Act Release Nos. 73593 (Nov. 14, 2014), 79 FR 69153 (Nov. 20, 2014) (SR- NYSEMKT-2014-95); 73703 (Nov. 28, 2014), 79 FR 72039 (Dec. 4, 2014) (SR-NYSE-2014-59); 74298 (Feb. 18, 2015), 80 FR 9770 (Feb. 24, 2015) (SR-NYSEMKT-2014-95) (instituting proceedings); 74642 (Apr. 3, 2015), 80 FR 19096 (Apr. 9, 2015) (SR-NYSE-2014-59) (proposal withdrawn); 74643 (Apr. 3, 2015), 80 FR 19102 (Apr. 9, 2015) (SR-NYSEMKT-2014-95) (proposal withdrawn).

[14] *See* Exchange Act Release Nos. 74571 (Mar. 24, 2015), 80 FR 16707 (Mar. 30, 2015) (SR- NYSEMKT-2015-19); 74678 (Apr. 8, 2015), 80 FR 20053 (Apr. 14, 2015) (SR-NYSE-2015-15).

same side non-displayed depth liquidity, without fully disclosing that potential behavior in its effective rules.

Violations

49. As a result of the conduct described above in Paragraphs 4-15, on July 8, 2015, Respondents NYSE and American violated Section 17(a)(2) of the Securities Act, which prohibits obtaining money or property by means of any untrue statement of a material fact or any omission of a material fact necessary in order to make the statements made, in light of the circumstances under which they were made, not misleading in the offer or sale of securities.

50. As a result of the conduct described above in Paragraphs 17-20 and 40-48, Respondents violated Section 19(b)(1) of the Exchange Act, which requires a national securities exchange, as a self-regulatory organization, to file any proposed rule change with the Commission for approval.

51. As a result of the conduct described above in Paragraphs 17-21 and 27-31, Respondent Arca violated Section 19(g)(1) of the Exchange Act, which requires a national securities exchange, as a self-regulatory organization, to comply with the provisions of the Exchange Act, the rules and regulations thereunder, and its own rules.

52. The violations described in paragraphs 50-51 also violated the terms of the 2014 Order (*see supra* paragraph 1), which the Commission considered when determining the appropriate remedies in this proceeding.

53. As a result of the conduct described above in Paragraphs 33-39, Respondents NYSE and American violated Rules 1001(a)(1) and 1001(a)(2)(v) of Regulation SCI, which require that:

a. each SCI entity have written policies and procedures reasonably designed to ensure that its SCI systems have levels of capacity, integrity, resiliency, availability, and security, adequate to maintain the SCI entity's operational capability and promote the maintenance of fair and orderly markets; and

b. that those policies and procedures include business continuity and disaster recovery plans that include maintaining backup and recovery capabilities sufficiently resilient and geographically diverse and that are reasonably designed to achieve next business day resumption of trading and two-hour resumption of critical SCI systems following a wide-scale disruption.

54. As a result of the conduct described above in Paragraphs 23-26, Respondent Arca violated Rule 608(c) of Regulation NMS, which requires a national securities exchange, as a self-regulatory organization, to comply with national market system plans of which it is a sponsor or participant.

Undertakings

55. Respondents have undertaken to do the following:

a. Beginning one (1) year after the date of this Order, and continuing each year thereafter for two (2) years (for a total of three (3) years), each Respondent shall require its principal executive officer to certify, in writing, that, based on a reasonable review, the Respondent has taken reasonable steps to achieve compliance with Sections 19(b) and 19(g) of the Exchange Act.

   i. Each certification required one year after the date of this Order shall provide written evidence of compliance with this Undertaking in the form of a narrative, and be supported by exhibits sufficient to demonstrate the basis for the certification.

   ii. With respect to the additional certifications required two years and three years after the date of this Order, the certifications shall provide written evidence of compliance with this Undertaking by identifying, with reference to the prior year's certification, (1) any enhancements or alterations to the Respondent's policies and procedures for complying with Sections 19(b) and 19(g) of the Exchange Act, and (2) any systems changes to the facilities of the exchange that the Respondent determined did not require a proposed rule filing with the Commission.

   iii. Each certification, including any supporting documentation, shall be provided promptly to the Board of Directors of each Respondent, and to Commission staff. Commission staff may make reasonable requests for further evidence of compliance, and each Respondent agrees to provide evidence in response to such requests.

b. For three (3) years following the date of this Order, senior management of the Respondents shall meet in person with Commission staff annually to discuss Respondents' compliance with Sections 19(b) and 19(g).

V.

In view of the foregoing, the Commission deems it appropriate to impose the sanctions agreed to in Respondents' Offers.

Accordingly, pursuant to Section 8A of the Securities Act and Sections 19(h)(1) and 21C of the Securities Exchange Act of 1934, it is hereby ORDERED that:

A. Respondents cease and desist from committing or causing any violations and any future violations of Sections 19(b)(1) of the Exchange Act.

B. Respondents NYSE and American cease and desist from committing or causing any violations and any future violations of Section 17(a)(2) of the Securities Act and Rules 1001(a)(1) and 1001(a)(2)(v) of Regulation SCI of the Exchange Act.

C. Respondent Arca cease and desist from violating Section 19(g)(1) of the Exchange Act and Rule 608(c) of Regulation NMS of the Exchange Act.

D. Respondents are censured.

E. Respondents shall, within 14 days of the entry of this Order, pay, jointly and severally, a civil money penalty in the amount of $14 million to the Securities and Exchange Commission for transfer to the general fund of the United States Treasury, subject to Exchange Act Section 21F(g)(3). If timely payment is not made, additional interest shall accrue pursuant to 31 U.S.C. §3717. Payment must be made in one of the following ways:

(1) Respondent may transmit payment electronically to the Commission, which will provide detailed ACH transfer/Fedwire instructions upon request;

(2) Respondent may make direct payment from a bank account via Pay.gov through the SEC website at http://www.sec.gov/about/offices/ofm.htm; or

(3) Respondent may pay by certified check, bank cashier's check, or United States postal money order, made payable to the Securities and Exchange Commission and hand-delivered or mailed to:

Enterprise Services Center
Accounts Receivable Branch
HQ Bldg., Room 181, AMZ-341
6500 South MacArthur Boulevard
Oklahoma City, OK 73169

Payments by check or money order must be accompanied by a cover letter identifying NYSE, American, and Arca as Respondents in these proceedings, and the file number of these proceedings; a copy of the cover letter and check or money order must be sent both to Robert Cohen, Chief, Cyber Unit, Division of Enforcement, Securities and Exchange Commission, 100 F St., NE, Washington, DC 20549 and Sanjay Wadhwa, Senior Associate Regional Director, Division of Enforcement, Securities and Exchange Commission, 200 Vesey Street, Suite 400, New York, New York 10281.

F. Amounts ordered to be paid as civil money penalties pursuant to this Order shall be treated as penalties paid to the government for all purposes, including all tax purposes. To preserve the deterrent effect of the civil penalty, Respondents agree that in any Related Investor Action, they shall not argue that they are entitled to, nor shall they benefit by, offset or reduction of any award of compensatory damages by the amount of any part of Respondents' payment of a civil penalty in this action ("Penalty Offset"). If the court in any Related Investor Action grants such a Penalty Offset, Respondents agree that they shall, within 30 days after entry of a final order granting the Penalty Offset, notify the Commission's counsel in this action and pay the amount of the Penalty Offset to the Securities and Exchange Commission. Such a payment shall not be deemed an additional civil penalty and shall not be deemed to change the amount of the civil penalty imposed in this proceeding. For purposes of this paragraph, a "Related Investor Action" means a private damages action brought against Respondents by or on behalf of one or more investors based on substantially the same facts as alleged in the Order instituted by the Commission in this proceeding.

G. Respondents shall comply with the undertakings enumerated in Paragraph 55 above.

By the Commission.

Brent J. Fields
Secretary