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

File No. * SR 2022 - * 032

Amendment No. (req. for Amendments *)

Filing by Financial Industry Regulatory Authority

Pursuant to Rule 19b-4 under the Securities Exchange Act of 1934

Initial * <input checked="" type="checkbox"/>	Amendment * <input type="checkbox"/>	Withdrawal <input type="checkbox"/>	Section 19(b)(2) * <input checked="" type="checkbox"/>	Section 19(b)(3)(A) * <input type="checkbox"/>	Section 19(b)(3)(B) * <input type="checkbox"/>
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Pilot <input type="checkbox"/>	Extension of Time Period for Commission Action * <input type="checkbox"/>	Date Expires * <input type="text"/>
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Rule

<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)

Notice of proposed change pursuant to the Payment, Clearing, and Settlement Act of 2010
Section 806(e)(1) *

Section 806(e)(2) *

Security-Based Swap Submission pursuant to the Securities Exchange Act of 1934
Section 3C(b)(2) *

Exhibit 2 Sent As Paper Document

Exhibit 3 Sent As Paper Document

Description

Provide a brief description of the action (limit 250 characters, required when Initial is checked *).

Proposed Rule Change Relating to Alternative Display Facility New Entrant

Contact Information

Provide the name, telephone number, and e-mail address of the person on the staff of the self-regulatory organization prepared to respond to questions and comments on the action.

First Name * Faisal Last Name * Sheikh

Title * Principal Counsel

E-mail * faisal.sheikh@finra.org

Telephone * (202) 728-8379 Fax (202) 728-8264

Signature

Pursuant to the requirements of the Securities Exchange of 1934, Financial Industry Regulatory Authority has duty caused this filing to be signed on its behalf by the undersigned thereunto duty authorized.

Date 12/16/2022

(Title *)

By Racquel Russell
(Name *)

Senior Vice President and Director of Capital M

NOTE: Clicking the signature block at right will initiate digitally signing the form. A digital signature is as legally binding as a physical signature, and once signed, this form cannot be changed.

Racquel Russell

Digitally signed by Racquel Russell
Date: 2022.12.16 06:57:07 -05'00'

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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FINRA-2022-032 19b-4.docx

The self-regulatory organization must provide all 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 proposal is consistent with the Act and applicable rules and regulations under the Act.

Exhibit 1 - Notice of Proposed Rule Change *

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FINRA-2022-032 Exhibit 1.docx

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 (if 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 (if 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 2- Notices, Written Comments, Transcripts, Other Communications

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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

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FINRA-2022-032 Exhibit 3.pdf

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

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The self-regulatory organization may choose to attach as Exhibit 5 proposed changes to rule text in place of providing it 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 if the filing (i.e. partial amendment) is clearly understandable on its face. Such partial 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 (“Act” or “Exchange Act”),¹ the Financial Industry Regulatory Authority, Inc. (“FINRA”) is filing with the Securities and Exchange Commission (“SEC” or “Commission”) a proposed rule change to add IntelligentCross ATS (“IntelligentCross”) as a new entrant to the Alternative Display Facility (“ADF”).

IntelligentCross has prepared a summary of its policies and procedures regarding access to quotations in an NMS stock displayed on the ADF, and a summary of its proposed fees for such access. A copy of that summary is attached as Exhibit 3.

The proposed rule change does not make any changes to the text of FINRA rules.

(b) Not applicable.

(c) Not applicable.

2. Procedures of the Self-Regulatory Organization

The Chief Legal Officer of FINRA authorized the filing of the proposed rule change with the SEC pursuant to delegated authority. No other action by FINRA is necessary for the filing of the proposed rule change.

If the Commission approves the proposed rule change, the effective date of the proposed rule change will be the date of Commission approval.

¹ 15 U.S.C. 78s(b)(1).

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

(a) Purpose

FINRA is proposing to add a new entrant—IntelligentCross—to the ADF. The ADF is a quotation collection and trade reporting facility that provides ADF market participants (i.e., ADF-registered market makers or electronic communications networks)² the ability to post quotations, display orders and report transactions in NMS stocks³ for submission to the securities information processors (“SIP”) for consolidation and dissemination to vendors and other market participants. In addition, the ADF delivers real-time data to FINRA for regulatory purposes, including enforcement of requirements imposed by SEC Regulation NMS.

The ADF was initially approved by the Commission on July 24, 2002, in connection with Nasdaq’s registration as a national securities exchange.⁴ At that time, the ADF was approved for Nasdaq-listed securities for a nine-month pilot period to provide FINRA members with an alternative to the Nasdaq systems for reporting quotations and transactions in Nasdaq UTP Plan securities.

² See FINRA Rule 6220(a)(3).

³ See 17 CFR 242.600.

⁴ See Securities Exchange Act Release No. 46249 (July 24, 2002), 67 FR 49822 (July 31, 2002) (Order Approving File No. SR-NASD-2002-97); see also Notice to Members 02-45 (August 2002).

In 2005, the Commission adopted Regulation NMS, which included an order protection rule⁵ that established trade-through protection for all NMS stocks.⁶ Since the ADF is a display-only facility, a market participant would have to access the actual ADF participant that posted the protected quotation on the ADF in order to comply with the Order Protection Rule.⁷ In the NMS Adopting Release, the Commission noted that market participants could potentially access an ADF participant either through direct access or through a private network.⁸

Given that market participants could be required to access multiple ADF participants to comply with the Order Protection Rule, the Commission formulated Rule 610 under SEC Regulation NMS to ensure that market participants would be afforded “fair and efficient access” to such trading centers.⁹ Accordingly, Rule 610 requires that a trading center displaying quotations in an NMS stock through an SRO display-only facility (such as the ADF) “provide a level and cost of access to such quotations that is substantially equivalent to the level and cost of access to quotations displayed by SRO

⁵ Rule 611 of Regulation NMS (the “Order Protection Rule”) provides that a trading center “shall establish, maintain, and enforce written policies and procedures that are reasonably designed to prevent trade-throughs on that trading center of protected quotations in NMS stocks” that do not fall within one of the exceptions set forth in the rule. See 17 CFR 242.611.

⁶ See Securities Exchange Act Release No. 51808 (June 9, 2005), 70 FR 37496, 37501 (June 29, 2005) (“NMS Adopting Release”).

⁷ See NMS Adopting Release, supra note 6 at 37541.

⁸ See NMS Adopting Release, supra note 6 at 37543.

⁹ See NMS Adopting Release, supra note 6 at 37549.

trading facilities in that stock.”¹⁰ Rule 610 also requires that a trading center displaying quotations in an NMS stock through an SRO display-only facility not impose unfairly discriminatory terms that prevent or inhibit any person from obtaining efficient access to such quotations through a member, subscriber, or customer of the trading center.¹¹

In articulating this standard, the Commission noted that the level and cost of access would “encompass both (1) the policies, procedures, and standards that govern access to quotations of the trading center, and (2) the connectivity through which market participants can obtain access and the cost of such connectivity.”¹² The nature and cost of connections for market participants seeking to access an ADF participant’s quotations would need to be substantially equivalent to the nature and cost of connections to SRO trading facilities.¹³

In evaluating whether ADF participants are meeting the access standards under Rule 610 of Regulation NMS, *i.e.*, that the cost of accessing an ADF participant is substantially equivalent to the cost of accessing an SRO trading facility, the Commission stated that the NASD (now FINRA) would act as a gatekeeper in this process. As such, FINRA would be required to submit a proposed rule change pursuant to Section 19(b) of the Act to add a new ADF participant.¹⁴ There has not been an active quoting participant on the ADF since the first quarter of 2015. Consistent with the requirements of Rule 610

¹⁰ 17 CFR 242.610(b)(1).

¹¹ 17 CFR 242.610(b)(2).

¹² See NMS Adopting Release, supra note 6 at 37549.

¹³ See NMS Adopting Release, supra note 6 at 37549.

¹⁴ See NMS Adopting Release, supra note 6 at 37549.

of Regulation NMS and the NMS Adopting Release, FINRA is submitting this proposed rule change so that IntelligentCross may become an ADF market participant.

Overview of IntelligentCross

IntelligentCross is an NMS stock ATS operating pursuant to an effective Form ATS-N and is required to comply with the conditions of the Regulation ATS exemption.¹⁵ IntelligentCross ASPEN operates three separate limit order books with optional display capability distinguished by different fee structures—the ASPEN fee/fee limit order book, ASPEN maker/taker limit order book, and ASPEN taker/maker limit order book.¹⁶ All three ASPEN order books act independently of each other; therefore, orders resting in one book do not rest on or interact with orders resting in another book.¹⁷ The ASPEN Fee/Fee limit order book would be the only order book displaying orders on

¹⁵ See Form ATS-N Filings and Information page on the Securities and Exchange Commission’s website, at <https://www.sec.gov/divisions/marketreg/form-ats-n-filings.htm>.

¹⁶ For purposes of this filing, “IntelligentCross ASPEN” refers collectively to the three ASPEN limit order books. “ASPEN Fee/Fee” refers to the ASPEN fee/fee limit order book with optional display capability that would display orders on the ADF. In addition to IntelligentCross ASPEN, IntelligentCross also operates a midpoint book that only accepts non-displayed midpoint orders, which is distinct from and does not interact with any of the three ASPEN limit order books.

¹⁷ ASPEN Fee/Fee publishes displayed prices in over 6,900 securities. As set forth in IntelligentCross’ summary, any orders entered into IntelligentCross will default to the ASPEN Fee/Fee book (aside from midpoint peg orders, which will default to the midpoint book). A subscriber who wishes to trade in the ASPEN maker/taker or taker/maker books must affirmatively identify those books when entering their order.

the ADF. All activity on IntelligentCross is identified and reported under the “INCR” market participant identifier (or “MPID”).¹⁸

As set forth in IntelligentCross’ summary, IntelligentCross only permits registered broker-dealers to be subscribers to IntelligentCross, and subscribers can interact with ASPEN Fee/Fee using conventional order types. Specifically, ASPEN Fee/Fee accepts limit orders with optional display instructions, immediate or cancel orders, and pegged orders (which are treated as regular orders with an automated repricing to the national best bid or offer (“NBBO”)).¹⁹ Only ASPEN Fee/Fee will accept incoming intermarket sweep orders (“ISOs”)²⁰ once it displays orders on the ADF.²¹

IntelligentCross has represented that ASPEN Fee/Fee utilizes a matching process that it has engineered to seek to maximize price discovery and provide an opportunity for investors to improve performance and achieve best execution. As set forth in its summary, ASPEN Fee/Fee establishes a matching schedule using an overnight optimization process that uses historical performance measurements from prior days’

¹⁸ IntelligentCross recognizes that, should trading reach the applicable thresholds under Rule 301(b)(3) or Rule 301(b)(5) of Regulation ATS, IntelligentCross would be required to comply with the applicable requirements of Regulation ATS. See, e.g., 17 CFR 242.301(b)(3) and (b)(5). In addition, IntelligentCross acknowledges that other regulatory obligations may become applicable in the future depending upon changes to the platform or its volume (e.g., obligations under Regulation Systems Compliance and Integrity). See 17 CFR 242.1000 through 242.1007.

¹⁹ As set forth in IntelligentCross’ summary, only limit orders and primary peg orders (with or without a limit price) are eligible to be displayed on the ASPEN Fee/Fee book, and therefore on the ADF.

²⁰ 17 CFR 242.600(b)(38).

²¹ As set forth in its summary, IntelligentCross has represented that ASPEN Fee/Fee will be the only ASPEN order book that will accept ISOs.

matches across all three IntelligentCross ASPEN books. Match schedules are defined by minimum/maximum time bands for each security, and these bands can have a minimum time of 150 microseconds and a maximum time of 900 microseconds (i.e., the maximum time for scheduling a match event is capped at 900 microseconds). For example, on a particular day, the match event band for XYZ stock may have a minimum time of 450 microseconds and a maximum time of 600 microseconds. The time of the actual match event is randomized within the match event band throughout the course of the trading day. Any order for a security that arrives prior to a match event (and that has not been cancelled, become unmarketable, or repriced)²² will be eligible to participate in the next match event for that security.²³ ASPEN Fee/Fee's matching process operates on a near-continuous basis throughout the day.²⁴ Match events are scheduled continuously while

²² As set forth in its summary, IntelligentCross has represented that situations may occur where an incoming order on ASPEN Fee/Fee may not execute against a resting order at match event time such as where: an existing resting order cancels prior to the next match event; an incoming order is canceled prior to the next match event; the NBBO moves between the time an order is received and the next match event takes place, making either the incoming order or the resting order non-marketable; or the NBBO changed before the next match event and pegged orders were repriced to the new NBBO, making the incoming order or the resting pegged order non-marketable.

²³ Both sides of the trade (buyers and sellers) are on equal footing for the next scheduled match event, while maintaining full control of their orders, i.e., both sides can cancel or update their orders at any time prior to the match. The ASPEN Fee/Fee book will automatically update its quotations, and all quotation updates, including those due to new or cancelled orders, are immediate.

²⁴ A list of illustrative use cases of IntelligentCross' matching process is included in the IntelligentCross Form ATS-N. See supra note 15.

ASPEN Fee/Fee's order book is in a "matchable state" (i.e., there is an order on each side eligible to match).²⁵

For each match event time, ASPEN Fee/Fee retrieves the NBBO and processes all the orders that have arrived and have not been cancelled in price-time priority (and, at each price level, displayed orders will have priority over non-displayed orders).²⁶ No subscriber (or non-subscriber accessing IntelligentCross through a subscriber) is given any priority through the matching process and the matching process is blind to the identity of the subscriber. Any matches are immediately reported to subscribers and the SIPs via a FINRA trade reporting facility and disseminated on IntelligentCross' market data feed.²⁷ ASPEN Fee/Fee automatically updates its quotations, and all quotation updates, including those due to new or cancelled orders, are immediate. As set forth in its summary, IntelligentCross will maintain policies and procedures designed for ASPEN Fee/Fee to maintain a linkage with the ADF and to transmit to the ADF for display the best priced orders entered by subscribers. As stated in its summary, IntelligentCross believes that including ASPEN Fee/Fee's displayed liquidity as a protected quote on the

²⁵ If there are no orders for a stock in the book, no match event will be scheduled. An incoming order that will make the book potentially matchable will trigger a scheduling of a match event if one has not already been scheduled.

²⁶ IntelligentCross uses a combination of SIP and proprietary direct feeds from national securities exchanges to determine the NBBO and protected quotes (e.g., for trade through purposes), and to price executions.

²⁷ IntelligentCross has represented that displayed orders from all three ASPEN order books are available in the IQX market data feed. Each of the ASPEN books have individualized data feeds; as such, subscribers to the IQX market data feed can choose to consume data from whichever ASPEN books they choose through separate feed identifiers. IntelligentCross has represented that the ASPEN Fee/Fee book will provide any quotes or quote updates to the ADF no later than what is disseminated via the IQX market data feed.

ADF will provide market participants an opportunity to improve performance and achieve best execution for their customers.

Regulation NMS Requirements for Protected Quotations

Rule 611 of Regulation NMS provides for price protection across markets against trade-throughs for “automated quotations” in NMS stocks.²⁸ Under Regulation NMS, an “automated quotation” is one that, among other things, can be executed “immediately and automatically” against an incoming IOC order.²⁹ As stated above, IntelligentCross has represented that ASPEN Fee/Fee’s matching engine operates near-continuously and that, when a new order arrives in the ASPEN Fee/Fee book, it will participate in the next scheduled match event by interacting with existing orders in the order book within a maximum time capped at 900 microseconds.

FINRA believes that quotations displayed on ASPEN Fee/Fee would meet the definition of an “automated quotation” under Regulation NMS. FINRA notes that, in 2016, the Commission interpreted Regulation NMS’s immediacy requirement to allow for “an intentional access delay that is de minimis—i.e., a delay so short as to not frustrate the purposes of Rule 611 by impairing fair and efficient access to an exchange’s quotations.”³⁰ The Commission stated that “[i]n the context of Regulation NMS, the term ‘immediate’ does not preclude all intentional delays regardless of their duration, and such preclusion is not necessary to achieve the objectives of Rule 611. As long as any

²⁸ 17 CFR 242.600(b)(6). See also 17 CFR 242.600(b)(70) and (71).

²⁹ 17 CFR 242.600(b)(6).

³⁰ Commission Interpretation Regarding Automated Quotations Under Regulation NMS, Securities Exchange Act Release No. 78102 (June 17, 2016), 81 FR 40785, 40792 (June 23, 2016).

intentional delay is de minimis – i.e., does not impair fair and efficient access to an exchange’s protected quotations – it is consistent with both the text and purpose of Rule 611.”³¹ SEC staff has further stated that “consistent with the Commission’s interpretation regarding automated quotation under Rule 600(b)(3) of Regulation NMS, delays of less than a millisecond are at a de minimis level that would not impair fair and efficient access to a quotation, consistent with the goals of Rule 611.”³²

FINRA notes that ASPEN Fee/Fee’s matching process includes match events that occur at pre-defined increments within 150 microseconds to 900 microseconds of order arrival, which is less than one millisecond. FINRA believes that this de minimis delay provides for an “immediate” execution of incoming orders while ASPEN Fee/Fee’s order book is in a matchable state. In addition, FINRA believes that ASPEN Fee/Fee’s matching process executes orders automatically because, as set forth in its summary, IntelligentCross represented that the quotations displayed on ASPEN Fee/Fee are handled on an automated basis and that there is no human discretion in determining any action taken with respect to an order after the order is received.³³

³¹ See supra note 30.

³² See Staff Guidance on Automated Quotations under Regulation NMS available at <https://www.sec.gov/divisions/marketreg/automated-quotations-under-regulation-nms.htm>.

³³ The Commission has stated that, for a quotation “[t]o qualify as ‘automatic,’ no human discretion in determining any action taken with respect to an order may be exercised after the time an order is received,” and “a quotation will not qualify as ‘automated’ if any human intervention after the time an order is received is allowed to determine the action taken with respect to the quotation.” See Regulation NMS Adopting Release, supra note 6 at 37519 and 37534.

As discussed in IntelligentCross' summary and above,³⁴ situations may occur where an incoming order may not execute against a resting order at match event time, such as when an existing resting order cancels prior to the next match event; an incoming order is canceled prior to the next match event; the NBBO moves between the time an order is received and the next match event takes place, making either the incoming order or the resting order non-marketable; or the NBBO changed before the next match event and pegged orders were repriced to the new NBBO, making the incoming order or the resting pegged order non-marketable.

For example, assume the NBBO in XYZ stock is \$10.00 x \$10.01 at 9:30:00.000000 and ASPEN Fee/Fee is displaying a limit order to buy at \$10.00. At 9:30:00.000010, ASPEN Fee/Fee receives an order to sell at \$10.00. At 9:30:00.000020, the displayed limit order to buy is cancelled. At 9:30:00.000040—the time of the next scheduled match event in XYZ stock—no match event occurs as there are no two matchable orders at that time. The same result would occur in this example if a subscriber sent a sell order that would have interacted with the buy limit order but then cancels their sell order at any time prior to the next scheduled match event.

As another example, assume the NBBO in XYZ stock is \$10.00 x \$10.01 at 9:30:00.000000 and ASPEN Fee/Fee is displaying a limit order to buy at \$10.00. At 9:30:00.000010, ASPEN Fee/Fee receives a sell order to sell at \$10.00. At 9:30:00.000040—the time of the next scheduled match event in XYZ stock—the NBBO has changed and is now 10.01 x 10.02. A match will not occur because ASPEN Fee/Fee

³⁴ See supra note 22.

will not execute a match outside of the NBBO (i.e., the resting order is now non-marketable) except that, as set forth in IntelligentCross' summary, if the sell order were an ISO, an execution would occur at \$10.00 at the scheduled match event time.

Finally, assume that the NBBO in XYZ stock is \$10.00 x \$10.01 at 9:30:00.000000 and ASPEN Fee/Fee is displaying a primary peg buy order with a limit of \$10.00. At 9:30:00.000010, ASPEN Fee/Fee receives a sell order to sell at \$10.00. At 9:30:00.000040, the time of the next scheduled match event in XYZ stock, the NBBO is now \$9.99 x \$10.01. A match will not occur because the pegged order follows the NBBO and gets repriced to the current NBBO of \$9.99. If the NBBO had moved to \$10.01 x \$10.02, ASPEN Fee/Fee's primary peg would not reprice as it is limited to \$10.00, and a match also would not occur.

IntelligentCross has represented that non-match events on ASPEN Fee/Fee occur in a minority of cases. Year-to-date (through the end of November 2022), IntelligentCross represented that 4.2 percent of potential matches on ASPEN Fee/Fee did not complete because a displayed order was canceled, and 4.7 percent of potential matches on ASPEN Fee/Fee did not complete because the NBBO changed and at least one of the sides became non-marketable. In such cases, IntelligentCross represented that subscribers exercised their right to change their orders or, in the case of pegged orders, instructed that their orders be changed in reaction to NBBO changes.

Level of Cost and Access to ASPEN Fee/Fee Quotations

Regulation NMS Rule 610(b) requires that any trading center that displays quotations in an NMS stock through an SRO display-only facility must provide a level and cost of access to such quotations that is substantially equivalent to the level and cost

of access to quotations displayed by SRO trading facilities in that stock.³⁵ Regulation NMS Rule 610(b) further requires that any trading center that displays quotations in an NMS stock through an SRO display-only facility shall not impose unfairly discriminatory terms that prevent or inhibit any person from obtaining efficient access to such quotations through a member, subscriber, or customer of the trading center. The cost of accessing the quotation of a trading center may consist of several distinct costs, such as port fees, market data fees, general connectivity fees, and transaction fees. As set forth in its summary, IntelligentCross represented that it believes the level and cost of access to its quotations complies with Rule 610 of Regulation NMS and will be substantially equivalent to the cost of access to quotations displayed by SRO trading facilities in that stock and the costs to connect to any other trading center, such as an exchange. IntelligentCross also represented that it utilizes a matching process that provides fair and efficient access to its quotations.³⁶

Specifically, as described in its summary, IntelligentCross utilizes a fee/fee pricing model for activity on ASPEN Fee/Fee where both sides are charged the same fee

³⁵ 17 CFR 242.610(b).

³⁶ With respect to the requirement that the nature and cost for market participants seeking to access an ADF Trading Center be substantially equivalent to the nature and cost of connection to SRO trading facilities, FINRA notes that the Commission stated in the NMS Adopting Release that this requirement does not apply on an absolute basis, but rather applies on a per-transaction basis to reflect the costs relative to the ADF participant's trading volume. See NMS Adopting Release, supra note 6 at 37549 n.449. Based on IntelligentCross' representations, FINRA believes that IntelligentCross' proposed level and cost of access to quotations on ASPEN Fee/Fee is substantially equivalent to the level and cost of access to quotations displayed by an SRO trading facility, both in absolute and relative terms.

for transactions.³⁷ The base rate charged by IntelligentCross is \$0.0008 per share for each side of a transaction on ASPEN Fee/Fee.³⁸ IntelligentCross' fee schedule for subscribers is published in the IntelligentCross Form ATS-N and pricing is subject to change with advance notice provided to subscribers. Eligible displayed orders are published via a free market data feed ("IQX market data feed").³⁹ In comparison, market data fees vary by exchange, with some exchanges charging fees that range from under \$500 per month to \$2500, and some exchanges charging \$4000 for external distribution.⁴⁰

³⁷ IntelligentCross has represented that ASPEN Fee/Fee subscribers can pay lower fees through (1) a "Total Composite Volume Incentive" based on the total market volume in all NMS Stocks reported to the consolidated tape and (2) an "Active Order Incentive" which is based on a per symbol basis and the percent that is marketable. The ASPEN Fee/Fee and midpoint order books will follow the same fee schedule, and shares traded will aggregate for volume pricing tiers. The ASPEN maker/taker and ASPEN taker/maker orders books are charged independently.

³⁸ In comparison, Cboe BZX Exchange, Inc. assesses a \$0.0030 charge per share for orders in securities priced \$1 or above that remove liquidity. Investors Exchange LLC ("IEX") assesses a fee of \$0.0006 for removing displayed liquidity for orders in securities that are priced at or above \$1, and MEMX LLC ("MEMX") assesses a fee that ranges from \$0.0029 to \$0.0030 for removing displayed liquidity above \$1.

³⁹ See supra note 27.

⁴⁰ IEX charges \$500 for their Top of Book Quote and Last Sale (TOPS) real-time feed and \$2,500 per month for its Depth of Book and Last Sale (DEEP) real-time feed. See <https://exchange.iex.io/resources/trading/fee-schedule/>. Cboe BYX Exchange, Inc. ("BYX") charges a \$250/month external distribution fee for BYX top-of-book data and a \$1,000/month external distribution fee for BYX last sale data. See https://www.cboe.com/us/equities/membership/fee_schedule/byx/. MEMX charges a \$2,000/month external distributor fee for its top-of-book data and a \$2,000/month external distributor fee for last sale data. See <https://info.memxtrading.com/fee-schedule/>.

Firms wishing to access liquidity on ASPEN Fee/Fee may connect in a variety of ways. Firms that are IntelligentCross subscribers connect to ASPEN via a Financial Information Exchange (“FIX”) connection. Such access is available to subscribers through an internet protocol address via communications that are compliant with the FIX application programming interface (“API”) provided by IntelligentCross. IntelligentCross does not accept orders via any other forms of communication (e.g., telephone, email, instant message). IntelligentCross allows a subscriber to determine its level of connectivity and does not tier or discriminate among subscribers.

IntelligentCross has represented that it does not charge connectivity fees to its subscribers. Subscribers wanting to connect directly to IntelligentCross’ user acceptance testing and production servers must establish cross-connects with the servers of IntelligentCross’ co-location and network provider, Pico Quantitative Trading, or connect through other network service providers that have a presence in the Equinix NY4 data center. IntelligentCross has represented that it is not involved in the installation of cross-connects; thus, subscribers must establish a relationship directly with the network service provider, NY4.⁴¹ IntelligentCross has represented that it does not currently charge

⁴¹ Exchange port fees can range from \$100 to \$20,000 per port, per month. For example, BYX assesses a fee of \$2,500 to \$7,500 per month per FIX physical port (depending on the size of the port). For logical ports, BYX charges \$550/port/month. See https://www.cboe.com/us/equities/membership/fee_schedule/byx. Nasdaq Stock Market LLC (“Nasdaq”) assesses fees for physical connections ranging from \$2,500 to \$20,000 (based on the size and type of physical connection). For Logical ports, Nasdaq charges \$575/port/month. See <http://www.nasdaqtrader.com/Trader.aspx?id=PriceListTrading2>. IEX does not charge for the first five ports (above 5 ports, IEX charges \$100/port/month). <https://exchange.iex.io/resources/trading/get-connected-directly/index.html>.

connectivity fees to access ASPEN and has offered to pay for certain of subscribers' cross-connect fees at NY4. IntelligentCross also currently pays for one primary connection and one back-up connection, and any direct subscriber is eligible for this payment. IntelligentCross' network provider and other similar network providers may charge fees relating to connectivity. IntelligentCross has represented that any such connectivity fees would be substantially equivalent to the costs to connect to any other trading center, such as an exchange.⁴²

As stated in its summary, IntelligentCross also has established and maintains policies and procedures related to periodic system capacity reviews and tests to ensure future capacity, as well as policies and procedures to identify potential weaknesses and reduce the risks of system failures and threats to system integrity. For purposes of displaying orders through the ADF, IntelligentCross' policies and procedures also require continuous monitoring of ASPEN's connections with an SRO display-only facility and, in the event that ASPEN loses connection with the ADF, IntelligentCross has contingency plans in place, including removing (*i.e.*, "zeroing out") all quotes previously published by the system to the ADF and notifying its subscribers of such interruption.

⁴² IntelligentCross does not assess other charges that may be assessed by exchanges, such as membership fees, trading rights fees, risk gateway fees and other miscellaneous fees. FINRA notes that these are the current fees assessed and rebates paid by IntelligentCross, and that IntelligentCross' fees may be subject to change. In the event that IntelligentCross makes a material change to the policies and procedures governing access to IntelligentCross, including a change to its fees, IntelligentCross has represented that it will submit the changes made to FINRA, and acknowledges that FINRA will post on its website an amended description of IntelligentCross' policies, procedures and fees governing access. Changes to the operations of IntelligentCross, as well as its disclosures on its public Form ATS-N, are subject to the requirements of Rule 304 of Regulation ATS.

As noted in item 2 of this filing, if the Commission approves the proposed rule change, the effective date of the proposed rule change will be the date of Commission approval.

(b) Statutory Basis

FINRA believes that the proposed rule change is consistent with the provisions of Section 15A(b)(6) of the Act,⁴³ which requires, among other things, that FINRA rules must be designed to prevent fraudulent and manipulative acts and practices, to promote just and equitable principles of trade, and, in general, to protect investors and the public interest, Section 15A(b)(9) of the Act,⁴⁴ which requires that FINRA rules not impose any burden on competition that is not necessary or appropriate, and Section 15A(b)(11) of the Act,⁴⁵ which requires among other things that FINRA rules include provisions governing the form and content of quotations relating to securities sold otherwise than on a national securities exchange which may be distributed or published by any member or person associated with a member, and the persons to whom such quotations may be supplied. Such rules relating to quotations must be designed to produce fair and informative quotations, to prevent fictitious or misleading quotations, and to promote orderly procedures for collecting, distributing, and publishing quotations.

FINRA believes the proposed rule change is consistent with the Act because it is being submitted pursuant to Rule 610 of Regulation NMS and the requirements set forth in the NMS Adopting Release, which require FINRA to submit a proposed rule change

⁴³ 15 U.S.C. 78o-3(b)(6).

⁴⁴ 15 U.S.C. 78o-3(b)(9).

⁴⁵ 15 U.S.C. 78o-3(b)(11).

upon the addition of a new ADF participant. This proposed rule change is also consistent with the Act in that it sets forth the fees, policies and procedures governing access to protected quotations ASPEN Fee/Fee may display on the ADF, which were identified by the Commission as central concerns surrounding the adoption of Rule 610.

FINRA believes that IntelligentCross' policies, procedures and standards governing access to ASPEN Fee/Fee's quotations are consistent with the objectives of Regulation NMS and provide market participants with fair and efficient access and are not unfairly discriminatory. For example, as provided in IntelligentCross' summary, any registered U.S. broker-dealer can be a subscriber of ASPEN Fee/Fee and must be in good standing with an SRO to be eligible to become a subscriber, and subscribers also must satisfy certain other eligibility requirements.⁴⁶

Both subscribers and non-subscribers may access liquidity on ASPEN Fee/Fee; when ASPEN Fee/Fee displays orders through the ADF, non-subscribers would access ASPEN Fee/Fee through a subscriber, and ASPEN Fee/Fee would therefore respond to orders by non-subscribers as promptly as it responds to orders by subscribers. IntelligentCross allows a subscriber to determine its level of connectivity,⁴⁷ and ASPEN Fee/Fee does not have any tiers or rules regarding execution of orders based upon the subscriber's identity. In addition, and as discussed above, IntelligentCross has represented that no subscriber (or non-subscribers accessing IntelligentCross through a

⁴⁶ For example, a subscriber must pass Office of Foreign Asset Control checks and pass disciplinary/regulatory reviews. A subscriber also must satisfy such technical or systems requirements as may be prescribed by IntelligentCross. See IntelligentCross' Form ATS-N, Part III, Item 2.

⁴⁷ See IntelligentCross' Form ATS-N, Part III, Item 6.

subscriber) is given any type of priority through the ASPEN Fee/Fee matching process, the ASPEN Fee/Fee matching process is blind to the identity of the subscriber (or a non-subscriber accessing IntelligentCross through a subscriber), and the ASPEN Fee/Fee matching mechanism applies uniformly to all subscribers (and non-subscribers accessing the ASPEN Fee/Fee book through a subscriber). FINRA believes that the proposed level and cost of access is, in relative terms, substantially equivalent to the level and cost of access provided by SRO trading facilities.

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

FINRA does not believe that the proposed rule change will result in any burden on competition that is not necessary or appropriate in furtherance of the purposes of the Act. FINRA notes that the purpose of this filing is to provide for the opportunity for public notice and comment on the addition of a new ADF entrant as required by Rule 610 of Regulation NMS and the NMS Adopting Release, along with that new entrant's proposed fees and policies and procedures for accessing protected quotations that it may display on the ADF. As such, FINRA believes that the proposed rule change may in fact promote competition by providing information about the level of access provided, and fees assessed, by a new ADF entrant.

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

Written comments were neither solicited nor received.

6. Extension of Time Period for Commission Action

FINRA does not consent at this time to an extension of the time period for

Commission action specified in Section 19(b)(2) of the Act.⁴⁸

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

Not applicable.

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. Completed notice of proposed rule change for publication in the Federal Register.

Exhibit 3. Summary of the policies, procedures and fees governing access to the protected quotations displayed on the ADF by the new entrant.

⁴⁸ 15 U.S.C. 78s(b)(2).

EXHIBIT 1

SECURITIES AND EXCHANGE COMMISSION
(Release No. 34- ; File No. SR-FINRA-2022-032)

Self-Regulatory Organizations; Financial Industry Regulatory Authority, Inc.; Notice of Filing of a Proposed Rule Change Relating to Alternative Display Facility New Entrant

Pursuant to Section 19(b)(1) of the Securities Exchange Act of 1934 (“Act”)¹ and Rule 19b-4 thereunder,² notice is hereby given that on , the Financial Industry Regulatory Authority, Inc. (“FINRA”) filed with the Securities and Exchange Commission (“SEC” or “Commission”) the proposed rule change as described in Items I, II, and III below, which Items have been prepared by FINRA. 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

FINRA is proposing to add IntelligentCross ATS (“IntelligentCross”) as a new entrant to the Alternative Display Facility (“ADF”).

IntelligentCross has prepared a summary of its policies and procedures regarding access to quotations in an NMS stock displayed on the ADF, and a summary of its proposed fees for such access. A copy of that summary is available on FINRA’s website at <http://www.finra.org>.

The proposed rule change does not make any changes to the text of FINRA rules.

¹ 15 U.S.C. 78s(b)(1).

² 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, FINRA 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 these statements may be examined at the places specified in Item IV below. FINRA has prepared summaries, set forth in sections A, B, and C below, of the most significant aspects of such statements.

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

1. Purpose

FINRA is proposing to add a new entrant—IntelligentCross—to the ADF. The ADF is a quotation collection and trade reporting facility that provides ADF market participants (i.e., ADF-registered market makers or electronic communications networks)³ the ability to post quotations, display orders and report transactions in NMS stocks⁴ for submission to the securities information processors (“SIP”) for consolidation and dissemination to vendors and other market participants. In addition, the ADF delivers real-time data to FINRA for regulatory purposes, including enforcement of requirements imposed by SEC Regulation NMS.

The ADF was initially approved by the Commission on July 24, 2002, in connection with Nasdaq's registration as a national securities exchange.⁵ At that time,

³ See FINRA Rule 6220(a)(3).

⁴ See 17 CFR 242.600.

⁵ See Securities Exchange Act Release No. 46249 (July 24, 2002), 67 FR 49822 (July 31, 2002) (Order Approving File No. SR-NASD-2002-97); see also Notice to Members 02-45 (August 2002).

the ADF was approved for Nasdaq-listed securities for a nine-month pilot period to provide FINRA members with an alternative to the Nasdaq systems for reporting quotations and transactions in Nasdaq UTP Plan securities.

In 2005, the Commission adopted Regulation NMS, which included an order protection rule⁶ that established trade-through protection for all NMS stocks.⁷ Since the ADF is a display-only facility, a market participant would have to access the actual ADF participant that posted the protected quotation on the ADF in order to comply with the Order Protection Rule.⁸ In the NMS Adopting Release, the Commission noted that market participants could potentially access an ADF participant either through direct access or through a private network.⁹

Given that market participants could be required to access multiple ADF participants to comply with the Order Protection Rule, the Commission formulated Rule 610 under SEC Regulation NMS to ensure that market participants would be afforded “fair and efficient access” to such trading centers.¹⁰ Accordingly, Rule 610 requires that a trading center displaying quotations in an NMS stock through an SRO display-only

⁶ Rule 611 of Regulation NMS (the “Order Protection Rule”) provides that a trading center “shall establish, maintain, and enforce written policies and procedures that are reasonably designed to prevent trade-throughs on that trading center of protected quotations in NMS stocks” that do not fall within one of the exceptions set forth in the rule. See 17 CFR 242.611.

⁷ See Securities Exchange Act Release No. 51808 (June 9, 2005), 70 FR 37496, 37501 (June 29, 2005) (“NMS Adopting Release”).

⁸ See NMS Adopting Release, supra note 7 at 37541.

⁹ See NMS Adopting Release, supra note 7 at 37543.

¹⁰ See NMS Adopting Release, supra note 7 at 37549.

facility (such as the ADF) “provide a level and cost of access to such quotations that is substantially equivalent to the level and cost of access to quotations displayed by SRO trading facilities in that stock.”¹¹ Rule 610 also requires that a trading center displaying quotations in an NMS stock through an SRO display-only facility not impose unfairly discriminatory terms that prevent or inhibit any person from obtaining efficient access to such quotations through a member, subscriber, or customer of the trading center.¹²

In articulating this standard, the Commission noted that the level and cost of access would “encompass both (1) the policies, procedures, and standards that govern access to quotations of the trading center, and (2) the connectivity through which market participants can obtain access and the cost of such connectivity.”¹³ The nature and cost of connections for market participants seeking to access an ADF participant’s quotations would need to be substantially equivalent to the nature and cost of connections to SRO trading facilities.¹⁴

In evaluating whether ADF participants are meeting the access standards under Rule 610 of Regulation NMS, *i.e.*, that the cost of accessing an ADF participant is substantially equivalent to the cost of accessing an SRO trading facility, the Commission stated that the NASD (now FINRA) would act as a gatekeeper in this process. As such, FINRA would be required to submit a proposed rule change pursuant to Section 19(b) of

¹¹ 17 CFR 242.610(b)(1).

¹² 17 CFR 242.610(b)(2).

¹³ See NMS Adopting Release, *supra* note 7 at 37549.

¹⁴ See NMS Adopting Release, *supra* note 7 at 37549.

the Act to add a new ADF participant.¹⁵ There has not been an active quoting participant on the ADF since the first quarter of 2015. Consistent with the requirements of Rule 610 of Regulation NMS and the NMS Adopting Release, FINRA is submitting this proposed rule change so that IntelligentCross may become an ADF market participant.

Overview of IntelligentCross

IntelligentCross is an NMS stock ATS operating pursuant to an effective Form ATS-N and is required to comply with the conditions of the Regulation ATS exemption.¹⁶ IntelligentCross ASPEN operates three separate limit order books with optional display capability distinguished by different fee structures—the ASPEN fee/fee limit order book, ASPEN maker/taker limit order book, and ASPEN taker/maker limit order book.¹⁷ All three ASPEN order books act independently of each other; therefore, orders resting in one book do not rest on or interact with orders resting in another book.¹⁸ The ASPEN Fee/Fee limit order book would be the only order book displaying orders on

¹⁵ See NMS Adopting Release, supra note 7 at 37549.

¹⁶ See Form ATS-N Filings and Information page on the Securities and Exchange Commission’s website, at <https://www.sec.gov/divisions/marketreg/form-ats-n-filings.htm>.

¹⁷ For purposes of this filing, “IntelligentCross ASPEN” refers collectively to the three ASPEN limit order books. “ASPEN Fee/Fee” refers to the ASPEN fee/fee limit order book with optional display capability that would display orders on the ADF. In addition to IntelligentCross ASPEN, IntelligentCross also operates a midpoint book that only accepts non-displayed midpoint orders, which is distinct from and does not interact with any of the three ASPEN limit order books.

¹⁸ ASPEN Fee/Fee publishes displayed prices in over 6,900 securities. As set forth in IntelligentCross’ summary, any orders entered into IntelligentCross will default to the ASPEN Fee/Fee book (aside from midpoint peg orders, which will default to the midpoint book). A subscriber who wishes to trade in the ASPEN maker/taker or taker/maker books must affirmatively identify those books when entering their order.

the ADF. All activity on IntelligentCross is identified and reported under the “INCR” market participant identifier (or “MPID”).¹⁹

As set forth in IntelligentCross’ summary, IntelligentCross only permits registered broker-dealers to be subscribers to IntelligentCross, and subscribers can interact with ASPEN Fee/Fee using conventional order types. Specifically, ASPEN Fee/Fee accepts limit orders with optional display instructions, immediate or cancel orders, and pegged orders (which are treated as regular orders with an automated repricing to the national best bid or offer (“NBBO”)).²⁰ Only ASPEN Fee/Fee will accept incoming intermarket sweep orders (“ISOs”)²¹ once it displays orders on the ADF.²²

IntelligentCross has represented that ASPEN Fee/Fee utilizes a matching process that it has engineered to seek to maximize price discovery and provide an opportunity for investors to improve performance and achieve best execution. As set forth in its summary, ASPEN Fee/Fee establishes a matching schedule using an overnight optimization process that uses historical performance measurements from prior days’

¹⁹ IntelligentCross recognizes that, should trading reach the applicable thresholds under Rule 301(b)(3) or Rule 301(b)(5) of Regulation ATS, IntelligentCross would be required to comply with the applicable requirements of Regulation ATS. See, e.g., 17 CFR 242.301(b)(3) and (b)(5). In addition, IntelligentCross acknowledges that other regulatory obligations may become applicable in the future depending upon changes to the platform or its volume (e.g., obligations under Regulation Systems Compliance and Integrity). See 17 CFR 242.1000 through 242.1007.

²⁰ As set forth in IntelligentCross’ summary, only limit orders and primary peg orders (with or without a limit price) are eligible to be displayed on the ASPEN Fee/Fee book, and therefore on the ADF.

²¹ 17 CFR 242.600(b)(38).

²² As set forth in its summary, IntelligentCross has represented that ASPEN Fee/Fee will be the only ASPEN order book that will accept ISOs.

matches across all three IntelligentCross ASPEN books. Match schedules are defined by minimum/maximum time bands for each security, and these bands can have a minimum time of 150 microseconds and a maximum time of 900 microseconds (i.e., the maximum time for scheduling a match event is capped at 900 microseconds). For example, on a particular day, the match event band for XYZ stock may have a minimum time of 450 microseconds and a maximum time of 600 microseconds. The time of the actual match event is randomized within the match event band throughout the course of the trading day. Any order for a security that arrives prior to a match event (and that has not been cancelled, become unmarketable, or repriced)²³ will be eligible to participate in the next match event for that security.²⁴ ASPEN Fee/Fee's matching process operates on a near-continuous basis throughout the day.²⁵ Match events are scheduled continuously while

²³ As set forth in its summary, IntelligentCross has represented that situations may occur where an incoming order on ASPEN Fee/Fee may not execute against a resting order at match event time such as where: an existing resting order cancels prior to the next match event; an incoming order is canceled prior to the next match event; the NBBO moves between the time an order is received and the next match event takes place, making either the incoming order or the resting order non-marketable; or the NBBO changed before the next match event and pegged orders were repriced to the new NBBO, making the incoming order or the resting pegged order non-marketable.

²⁴ Both sides of the trade (buyers and sellers) are on equal footing for the next scheduled match event, while maintaining full control of their orders, i.e., both sides can cancel or update their orders at any time prior to the match. The ASPEN Fee/Fee book will automatically update its quotations, and all quotation updates, including those due to new or cancelled orders, are immediate.

²⁵ A list of illustrative use cases of IntelligentCross' matching process is included in the IntelligentCross Form ATS-N. See supra note 16.

ASPEN Fee/Fee's order book is in a "matchable state" (i.e., there is an order on each side eligible to match).²⁶

For each match event time, ASPEN Fee/Fee retrieves the NBBO and processes all the orders that have arrived and have not been cancelled in price-time priority (and, at each price level, displayed orders will have priority over non-displayed orders).²⁷ No subscriber (or non-subscriber accessing IntelligentCross through a subscriber) is given any priority through the matching process and the matching process is blind to the identity of the subscriber. Any matches are immediately reported to subscribers and the SIPs via a FINRA trade reporting facility and disseminated on IntelligentCross' market data feed.²⁸ ASPEN Fee/Fee automatically updates its quotations, and all quotation updates, including those due to new or cancelled orders, are immediate. As set forth in its summary, IntelligentCross will maintain policies and procedures designed for ASPEN Fee/Fee to maintain a linkage with the ADF and to transmit to the ADF for display the best priced orders entered by subscribers. As stated in its summary, IntelligentCross believes that including ASPEN Fee/Fee's displayed liquidity as a protected quote on the

²⁶ If there are no orders for a stock in the book, no match event will be scheduled. An incoming order that will make the book potentially matchable will trigger a scheduling of a match event if one has not already been scheduled.

²⁷ IntelligentCross uses a combination of SIP and proprietary direct feeds from national securities exchanges to determine the NBBO and protected quotes (e.g., for trade through purposes), and to price executions.

²⁸ IntelligentCross has represented that displayed orders from all three ASPEN order books are available in the IQX market data feed. Each of the ASPEN books have individualized data feeds; as such, subscribers to the IQX market data feed can choose to consume data from whichever ASPEN books they choose through separate feed identifiers. IntelligentCross has represented that the ASPEN Fee/Fee book will provide any quotes or quote updates to the ADF no later than what is disseminated via the IQX market data feed.

ADF will provide market participants an opportunity to improve performance and achieve best execution for their customers.

Regulation NMS Requirements for Protected Quotations

Rule 611 of Regulation NMS provides for price protection across markets against trade-throughs for “automated quotations” in NMS stocks.²⁹ Under Regulation NMS, an “automated quotation” is one that, among other things, can be executed “immediately and automatically” against an incoming IOC order.³⁰ As stated above, IntelligentCross has represented that ASPEN Fee/Fee’s matching engine operates near-continuously and that, when a new order arrives in the ASPEN Fee/Fee book, it will participate in the next scheduled match event by interacting with existing orders in the order book within a maximum time capped at 900 microseconds.

FINRA believes that quotations displayed on ASPEN Fee/Fee would meet the definition of an “automated quotation” under Regulation NMS. FINRA notes that, in 2016, the Commission interpreted Regulation NMS’s immediacy requirement to allow for “an intentional access delay that is de minimis—i.e., a delay so short as to not frustrate the purposes of Rule 611 by impairing fair and efficient access to an exchange’s quotations.”³¹ The Commission stated that “[i]n the context of Regulation NMS, the term ‘immediate’ does not preclude all intentional delays regardless of their duration, and such preclusion is not necessary to achieve the objectives of Rule 611. As long as any

²⁹ 17 CFR 242.600(b)(6). See also 17 CFR 242.600(b)(70) and (71).

³⁰ 17 CFR 242.600(b)(6).

³¹ Commission Interpretation Regarding Automated Quotations Under Regulation NMS, Securities Exchange Act Release No. 78102 (June 17, 2016), 81 FR 40785, 40792 (June 23, 2016).

intentional delay is de minimis – i.e., does not impair fair and efficient access to an exchange’s protected quotations – it is consistent with both the text and purpose of Rule 611.”³² SEC staff has further stated that “consistent with the Commission’s interpretation regarding automated quotation under Rule 600(b)(3) of Regulation NMS, delays of less than a millisecond are at a de minimis level that would not impair fair and efficient access to a quotation, consistent with the goals of Rule 611.”³³

FINRA notes that ASPEN Fee/Fee’s matching process includes match events that occur at pre-defined increments within 150 microseconds to 900 microseconds of order arrival, which is less than one millisecond. FINRA believes that this de minimis delay provides for an “immediate” execution of incoming orders while ASPEN Fee/Fee’s order book is in a matchable state. In addition, FINRA believes that ASPEN Fee/Fee’s matching process executes orders automatically because, as set forth in its summary, IntelligentCross represented that the quotations displayed on ASPEN Fee/Fee are handled on an automated basis and that there is no human discretion in determining any action taken with respect to an order after the order is received.³⁴

³² See supra note 31.

³³ See Staff Guidance on Automated Quotations under Regulation NMS available at <https://www.sec.gov/divisions/marketreg/automated-quotations-under-regulation-nms.htm>.

³⁴ The Commission has stated that, for a quotation “[t]o qualify as ‘automatic,’ no human discretion in determining any action taken with respect to an order may be exercised after the time an order is received,” and “a quotation will not qualify as ‘automated’ if any human intervention after the time an order is received is allowed to determine the action taken with respect to the quotation.” See Regulation NMS Adopting Release, supra note 7 at 37519 and 37534.

As discussed in IntelligentCross' summary and above,³⁵ situations may occur where an incoming order may not execute against a resting order at match event time, such as when an existing resting order cancels prior to the next match event; an incoming order is canceled prior to the next match event; the NBBO moves between the time an order is received and the next match event takes place, making either the incoming order or the resting order non-marketable; or the NBBO changed before the next match event and pegged orders were repriced to the new NBBO, making the incoming order or the resting pegged order non-marketable.

For example, assume the NBBO in XYZ stock is \$10.00 x \$10.01 at 9:30:00.000000 and ASPEN Fee/Fee is displaying a limit order to buy at \$10.00. At 9:30:00.000010, ASPEN Fee/Fee receives an order to sell at \$10.00. At 9:30:00.000020, the displayed limit order to buy is cancelled. At 9:30:00.000040—the time of the next scheduled match event in XYZ stock—no match event occurs as there are no two matchable orders at that time. The same result would occur in this example if a subscriber sent a sell order that would have interacted with the buy limit order but then cancels their sell order at any time prior to the next scheduled match event.

As another example, assume the NBBO in XYZ stock is \$10.00 x \$10.01 at 9:30:00.000000 and ASPEN Fee/Fee is displaying a limit order to buy at \$10.00. At 9:30:00.000010, ASPEN Fee/Fee receives a sell order to sell at \$10.00. At 9:30:00.000040—the time of the next scheduled match event in XYZ stock—the NBBO has changed and is now 10.01 x 10.02. A match will not occur because ASPEN Fee/Fee will not execute a match outside of the NBBO (i.e., the resting order is now non-

³⁵ See supra note 23.

marketable) except that, as set forth in IntelligentCross' summary, if the sell order were an ISO, an execution would occur at \$10.00 at the scheduled match event time.

Finally, assume that the NBBO in XYZ stock is \$10.00 x \$10.01 at 9:30:00.000000 and ASPEN Fee/Fee is displaying a primary peg buy order with a limit of \$10.00. At 9:30:00.000010, ASPEN Fee/Fee receives a sell order to sell at \$10.00. At 9:30:00.000040, the time of the next scheduled match event in XYZ stock, the NBBO is now \$9.99 x \$10.01. A match will not occur because the pegged order follows the NBBO and gets repriced to the current NBBO of \$9.99. If the NBBO had moved to \$10.01 x \$10.02, ASPEN Fee/Fee's primary peg would not reprice as it is limited to \$10.00, and a match also would not occur.

IntelligentCross has represented that non-match events on ASPEN Fee/Fee occur in a minority of cases. Year-to-date (through the end of November 2022), IntelligentCross represented that 4.2 percent of potential matches on ASPEN Fee/Fee did not complete because a displayed order was canceled, and 4.7 percent of potential matches on ASPEN Fee/Fee did not complete because the NBBO changed and at least one of the sides became non-marketable. In such cases, IntelligentCross represented that subscribers exercised their right to change their orders or, in the case of pegged orders, instructed that their orders be changed in reaction to NBBO changes.

Level of Cost and Access to ASPEN Fee/Fee Quotations

Regulation NMS Rule 610(b) requires that any trading center that displays quotations in an NMS stock through an SRO display-only facility must provide a level and cost of access to such quotations that is substantially equivalent to the level and cost

of access to quotations displayed by SRO trading facilities in that stock.³⁶ Regulation NMS Rule 610(b) further requires that any trading center that displays quotations in an NMS stock through an SRO display-only facility shall not impose unfairly discriminatory terms that prevent or inhibit any person from obtaining efficient access to such quotations through a member, subscriber, or customer of the trading center. The cost of accessing the quotation of a trading center may consist of several distinct costs, such as port fees, market data fees, general connectivity fees, and transaction fees. As set forth in its summary, IntelligentCross represented that it believes the level and cost of access to its quotations complies with Rule 610 of Regulation NMS and will be substantially equivalent to the cost of access to quotations displayed by SRO trading facilities in that stock and the costs to connect to any other trading center, such as an exchange. IntelligentCross also represented that it utilizes a matching process that provides fair and efficient access to its quotations.³⁷

Specifically, as described in its summary, IntelligentCross utilizes a fee/fee pricing model for activity on ASPEN Fee/Fee where both sides are charged the same fee

³⁶ 17 CFR 242.610(b).

³⁷ With respect to the requirement that the nature and cost for market participants seeking to access an ADF Trading Center be substantially equivalent to the nature and cost of connection to SRO trading facilities, FINRA notes that the Commission stated in the NMS Adopting Release that this requirement does not apply on an absolute basis, but rather applies on a per-transaction basis to reflect the costs relative to the ADF participant's trading volume. See NMS Adopting Release, *supra* note 7 at 37549 n.449. Based on IntelligentCross' representations, FINRA believes that IntelligentCross' proposed level and cost of access to quotations on ASPEN Fee/Fee is substantially equivalent to the level and cost of access to quotations displayed by an SRO trading facility, both in absolute and relative terms.

for transactions.³⁸ The base rate charged by IntelligentCross is \$0.0008 per share for each side of a transaction on ASPEN Fee/Fee.³⁹ IntelligentCross' fee schedule for subscribers is published in the IntelligentCross Form ATS-N and pricing is subject to change with advance notice provided to subscribers. Eligible displayed orders are published via a free market data feed ("IQX market data feed").⁴⁰ In comparison, market data fees vary by exchange, with some exchanges charging fees that range from under \$500 per month to \$2500, and some exchanges charging \$4000 for external distribution.⁴¹

³⁸ IntelligentCross has represented that ASPEN Fee/Fee subscribers can pay lower fees through (1) a "Total Composite Volume Incentive" based on the total market volume in all NMS Stocks reported to the consolidated tape and (2) an "Active Order Incentive" which is based on a per symbol basis and the percent that is marketable. The ASPEN Fee/Fee and midpoint order books will follow the same fee schedule, and shares traded will aggregate for volume pricing tiers. The ASPEN maker/taker and ASPEN taker/maker orders books are charged independently.

³⁹ In comparison, Cboe BZX Exchange, Inc. assesses a \$0.0030 charge per share for orders in securities priced \$1 or above that remove liquidity. Investors Exchange LLC ("IEX") assesses a fee of \$0.0006 for removing displayed liquidity for orders in securities that are priced at or above \$1, and MEMX LLC ("MEMX") assesses a fee that ranges from \$0.0029 to \$0.0030 for removing displayed liquidity above \$1.

⁴⁰ See supra note 28.

⁴¹ IEX charges \$500 for their Top of Book Quote and Last Sale (TOPS) real-time feed and \$2,500 per month for its Depth of Book and Last Sale (DEEP) real-time feed. See <https://exchange.iex.io/resources/trading/fee-schedule/>. Cboe BYX Exchange, Inc. ("BYX") charges a \$250/month external distribution fee for BYX top-of-book data and a \$1,000/month external distribution fee for BYX last sale data. See https://www.cboe.com/us/equities/membership/fee_schedule/byx/. MEMX charges a \$2,000/month external distributor fee for its top-of-book data and a \$2,000/month external distributor fee for last sale data. See <https://info.memxtrading.com/fee-schedule/>.

Firms wishing to access liquidity on ASPEN Fee/Fee may connect in a variety of ways. Firms that are IntelligentCross subscribers connect to ASPEN via a Financial Information Exchange (“FIX”) connection. Such access is available to subscribers through an internet protocol address via communications that are compliant with the FIX application programming interface (“API”) provided by IntelligentCross.

IntelligentCross does not accept orders via any other forms of communication (e.g., telephone, email, instant message). IntelligentCross allows a subscriber to determine its level of connectivity and does not tier or discriminate among subscribers.

IntelligentCross has represented that it does not charge connectivity fees to its subscribers. Subscribers wanting to connect directly to IntelligentCross’ user acceptance testing and production servers must establish cross-connects with the servers of IntelligentCross’ co-location and network provider, Pico Quantitative Trading, or connect through other network service providers that have a presence in the Equinix NY4 data center. IntelligentCross has represented that it is not involved in the installation of cross-connects; thus, subscribers must establish a relationship directly with the network service provider, NY4.⁴² IntelligentCross has represented that it does not currently charge connectivity fees to access ASPEN and has offered to pay for certain of subscribers’

⁴² Exchange port fees can range from \$100 to \$20,000 per port, per month. For example, BYX assesses a fee of \$2,500 to \$7,500 per month per FIX physical port (depending on the size of the port). For logical ports, BYX charges \$550/port/month. See https://www.cboe.com/us/equities/membership/fee_schedule/byx. Nasdaq Stock Market LLC (“Nasdaq”) assesses fees for physical connections ranging from \$2,500 to \$20,000 (based on the size and type of physical connection). For Logical ports, Nasdaq charges \$575/port/month. See <http://www.nasdaqtrader.com/Trader.aspx?id=PriceListTrading2>. IEX does not charge for the first five ports (above 5 ports, IEX charges \$100/port/month). <https://exchange.iex.io/resources/trading/get-connected-directly/index.html>.

cross-connect fees at NY4. IntelligentCross also currently pays for one primary connection and one back-up connection, and any direct subscriber is eligible for this payment. IntelligentCross' network provider and other similar network providers may charge fees relating to connectivity. IntelligentCross has represented that any such connectivity fees would be substantially equivalent to the costs to connect to any other trading center, such as an exchange.⁴³

As stated in its summary, IntelligentCross also has established and maintains policies and procedures related to periodic system capacity reviews and tests to ensure future capacity, as well as policies and procedures to identify potential weaknesses and reduce the risks of system failures and threats to system integrity. For purposes of displaying orders through the ADF, IntelligentCross' policies and procedures also require continuous monitoring of ASPEN's connections with an SRO display-only facility and, in the event that ASPEN loses connection with the ADF, IntelligentCross has contingency plans in place, including removing (i.e., "zeroing out") all quotes previously published by the system to the ADF and notifying its subscribers of such interruption.

⁴³ IntelligentCross does not assess other charges that may be assessed by exchanges, such as membership fees, trading rights fees, risk gateway fees and other miscellaneous fees. FINRA notes that these are the current fees assessed and rebates paid by IntelligentCross, and that IntelligentCross' fees may be subject to change. In the event that IntelligentCross makes a material change to the policies and procedures governing access to IntelligentCross, including a change to its fees, IntelligentCross has represented that it will submit the changes made to FINRA, and acknowledges that FINRA will post on its website an amended description of IntelligentCross' policies, procedures and fees governing access. Changes to the operations of IntelligentCross, as well as its disclosures on its public Form ATS-N, are subject to the requirements of Rule 304 of Regulation ATS.

If the Commission approves the proposed rule change, the effective date of the proposed rule change will be the date of Commission approval.

2. Statutory Basis

FINRA believes that the proposed rule change is consistent with the provisions of Section 15A(b)(6) of the Act,⁴⁴ which requires, among other things, that FINRA rules must be designed to prevent fraudulent and manipulative acts and practices, to promote just and equitable principles of trade, and, in general, to protect investors and the public interest, Section 15A(b)(9) of the Act,⁴⁵ which requires that FINRA rules not impose any burden on competition that is not necessary or appropriate, and Section 15A(b)(11) of the Act,⁴⁶ which requires among other things that FINRA rules include provisions governing the form and content of quotations relating to securities sold otherwise than on a national securities exchange which may be distributed or published by any member or person associated with a member, and the persons to whom such quotations may be supplied. Such rules relating to quotations must be designed to produce fair and informative quotations, to prevent fictitious or misleading quotations, and to promote orderly procedures for collecting, distributing, and publishing quotations.

FINRA believes the proposed rule change is consistent with the Act because it is being submitted pursuant to Rule 610 of Regulation NMS and the requirements set forth in the NMS Adopting Release, which require FINRA to submit a proposed rule change upon the addition of a new ADF participant. This proposed rule change is also consistent

⁴⁴ 15 U.S.C. 78o-3(b)(6).

⁴⁵ 15 U.S.C. 78o-3(b)(9).

⁴⁶ 15 U.S.C. 78o-3(b)(11).

with the Act in that it sets forth the fees, policies and procedures governing access to protected quotations ASPEN Fee/Fee may display on the ADF, which were identified by the Commission as central concerns surrounding the adoption of Rule 610.

FINRA believes that IntelligentCross' policies, procedures and standards governing access to ASPEN Fee/Fee's quotations are consistent with the objectives of Regulation NMS and provide market participants with fair and efficient access and are not unfairly discriminatory. For example, as provided in IntelligentCross' summary, any registered U.S. broker-dealer can be a subscriber of ASPEN Fee/Fee and must be in good standing with an SRO to be eligible to become a subscriber, and subscribers also must satisfy certain other eligibility requirements.⁴⁷

Both subscribers and non-subscribers may access liquidity on ASPEN Fee/Fee; when ASPEN Fee/Fee displays orders through the ADF, non-subscribers would access ASPEN Fee/Fee through a subscriber, and ASPEN Fee/Fee would therefore respond to orders by non-subscribers as promptly as it responds to orders by subscribers.

IntelligentCross allows a subscriber to determine its level of connectivity,⁴⁸ and ASPEN Fee/Fee does not have any tiers or rules regarding execution of orders based upon the subscriber's identity. In addition, and as discussed above, IntelligentCross has represented that no subscriber (or non-subscribers accessing IntelligentCross through a subscriber) is given any type of priority through the ASPEN Fee/Fee matching process,

⁴⁷ For example, a subscriber must pass Office of Foreign Asset Control checks and pass disciplinary/regulatory reviews. A subscriber also must satisfy such technical or systems requirements as may be prescribed by IntelligentCross. See IntelligentCross' Form ATS-N, Part III, Item 2.

⁴⁸ See IntelligentCross' Form ATS-N, Part III, Item 6.

the ASPEN Fee/Fee matching process is blind to the identity of the subscriber (or a non-subscriber accessing IntelligentCross through a subscriber), and the ASPEN Fee/Fee matching mechanism applies uniformly to all subscribers (and non-subscribers accessing the ASPEN Fee/Fee book through a subscriber). FINRA believes that the proposed level and cost of access is, in relative terms, substantially equivalent to the level and cost of access provided by SRO trading facilities.

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

FINRA does not believe that the proposed rule change will result in any burden on competition that is not necessary or appropriate in furtherance of the purposes of the Act. FINRA notes that the purpose of this filing is to provide for the opportunity for public notice and comment on the addition of a new ADF entrant as required by Rule 610 of Regulation NMS and the NMS Adopting Release, along with that new entrant's proposed fees and policies and procedures for accessing protected quotations that it may display on the ADF. As such, FINRA believes that the proposed rule change may in fact promote competition by providing information about the level of access provided, and fees assessed, by a new ADF entrant.

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

Written comments were neither solicited nor received.

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 (i) as the Commission may designate up to 90 days of such date

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 such 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-FINRA-2022-032 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-FINRA-2022-032. 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 a.m. and 3 p.m. Copies of such filing also will be available for inspection and copying at the principal office of FINRA. 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-FINRA-2022-032 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.⁴⁹

Jill M. Peterson
Assistant Secretary

⁴⁹ 17 CFR 200.30-3(a)(12).



IMPERATIVE EXECUTION

December 15, 2022

Mr. Brendan K. Loonam
Senior Director - Business Services, Transparency Services Department
FINRA
10 Harborside Plaza
3 Second Street, Suite 900
Jersey City, NJ 07302

Dear Mr. Loonam:

This letter is in response to your request for information regarding the IntelligentCross ATS ("IntelligentCross") and specifically the display capabilities of the IntelligentCross ASPEN ("ASPEN") Fee/Fee matching model that would be providing quotes to the FINRA Alternative Displayed Facility ("ADF"). Please find below information regarding IntelligentCross' operations, as well as the matching process in general.¹

I. Overview

The IntelligentCross ATS is widely used by most major US broker-dealers and electronic trading firms. During the first three quarters of 2022, IntelligentCross was consistently in the top five of ATSs for total shares traded of NMS Tier 1 stocks in the FINRA ATS weekly statistics, trading over \$4.4 billion notional per day single counted.

The IntelligentCross ATS operates two different matching models: (1) a Midpoint book that only accepts non-displayed midpoint orders and (2) ASPEN, a full limit order book with optional displayed capability.² While the two matching models operate under the same "market participant identifier" (or "MPID") – INCR – the two books are distinct and do not interact with one another.

The ASPEN book has three distinct books distinguished by different fee structures – ASPEN Fee/Fee, ASPEN Maker/Taker and ASPEN Taker/Maker. All three books act independent of each other; orders resting in one book do not rest on or interact with orders resting in another book. The ASPEN Fee/Fee book would be the only order book displaying orders on the ADF, *i.e.*, the only orders from the INCR MPID on the ADF will be from the ASPEN Fee/Fee book.

¹ IntelligentCross is a SEC-registered US equities Alternative Trading System ("ATS"). IntelligentCross has an effective Form ATS-N under Rule 304 of Regulation ATS, which requires ATSs that trade NMS stocks to publicly file with the SEC an initial Form ATS-N (and amendments thereto) containing disclosures about the manner of operations of the ATS and the ATS-related activities of the broker-dealer operator and its affiliates, among other things. Imperative Execution is a financial technology company that is the parent company of IntelligentCross. For further information on Imperative Execution and IntelligentCross, please see <https://www.imperativex.com/intelligentcross>.

² Orders sent to the ASPEN book may be marked by subscribers as either displayed or non-displayed.

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In addition to the independence of the Midpoint book and all three ASPEN books from one another, the Midpoint book only accepts midpoint peg orders, which are not accepted in any of the ASPEN books. Any orders entered into IntelligentCross through any other order type (*e.g.*, market order, limit order, primary peg order (with or without a limit price), and marketable peg order (with or without a limit price)) will default to the ASPEN Fee/Fee book. Only limit orders and primary peg orders (with or without a limit price) are eligible to be displayed on the ASPEN Fee/Fee book, and therefore on the ADF. A subscriber who wishes to trade in the ASPEN Maker/Taker or Taker/Maker books must affirmatively identify those books when entering their order.³

The ASPEN Fee/Fee book has been operating since 2019 and currently publishes displayed prices in over 6,900 securities. ASPEN Fee/Fee improves the NBBO over 6.4 million times per day for orders of round-lot size or larger on arrival (for third quarter 2022). These prices are not available to most investors because the orders displayed on the IntelligentCross ATS are not disseminated over the SIP and therefore are currently not a part of the NBBO.

As described more fully below, ASPEN Fee/Fee does not tier or discriminate among subscribers, is readily accessible, has a fee schedule that is transparent, formulaic and applies to all subscribers evenly, and its eligible displayed orders are published via a free market data feed (“IQX”).⁴ ASPEN Fee/Fee also is one of the fastest trading venues, acknowledging orders within 13 microseconds on average and trades near-continuously, scheduling matches for each security within 150-900 microseconds.

II. Benefits of ASPEN Fee/Fee Displayed Liquidity as a Protected Quote

IntelligentCross aims to bring additional well-priced displayed liquidity to the public quote through the ADF. Over the course of our four years of operation and matching over \$1.5 trillion (single counted) of orders from over 50 broker-dealer subscribers, we have seen the benefits that IntelligentCross as a whole brings to the markets through our matching process engineered to maximize price discovery and to provide an opportunity for investors to improve performance and achieve best execution. Currently, the displayed liquidity on the ASPEN Fee/Fee book provides brokers an opportunity to improve performance and achieve best execution for their customers. As an example, during the third quarter of 2022, a trade was reported on the SIP at the time ASPEN Fee/Fee has a better displayed quote of round-lot size or larger, over 1.1 million times per day, and 211 million shares per day were printed to the SIP at prices worse than those displayed by ASPEN Fee/Fee at that time. Similarly, over 1.7 billion shares in the ASPEN Fee/Fee book of round-lot size or larger were priced better than the NBBO on arrival per day, and investors paid (on average) \$35 million per day more for securities at other market centers than the prices available at that time on ASPEN Fee/Fee.

³ All three ASPEN books also operate with different MIC codes: ASPEN Fee/Fee - ASPN; ASPEN Maker/Taker - ASMT; and ASPEN Taker/Maker - ASPI.

⁴ Displayed orders from all three ASPEN books are available in the IQX market data feed. Each of the ASPEN books have individualized data feeds; as such, subscribers to the IQX feed can choose to consume data from whichever books they choose through separate feed identifiers.

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Adding the ASPEN Fee/Fee book's displayed liquidity to the public quote as a protected quotation via the ADF will make these quotes available to all market participants and enable them to access better prices, bringing more quality liquidity and price discovery to the broader markets. Bringing the ASPEN Fee/Fee quote to the public quote also is consistent with the objectives of creating a more competitive marketplace for investors and offering market participants additional choices of venues when trading. Among other things, the ASPEN Fee/Fee matching mechanism applies uniformly to all subscribers (and non-subscribers accessing the ASPEN Fee/Fee book through a subscriber) and it utilizes a matching process that provides fair and efficient access to its quotations.

III. ASPEN Fee/Fee Matching Process

The superior displayed prices on the ASPEN Fee/Fee book are possible due to the utilization of a unique matching process that provides subscribers (and their clients) an opportunity to improve their trading performance and achieve best execution.⁵

Determination of Matching Schedule

The ASPEN Fee/Fee book uses a matching mechanism which is near-continuous and that matches orders at scheduled times ("match events"). Matching schedules are calculated using an overnight optimization process that uses historical performance measurements from prior days' matches across all three ASPEN books. Each day starts with a prepared matching schedule for each security that does not change throughout the day.

Each security has an individualized matching schedule, computed daily to maximize price stability after trades. Match schedules are defined by "minimum/maximum time bands" for each security, and these bands can have a minimum time of 150 microseconds and a maximum time of 900 microseconds (*i.e.*, the maximum time for scheduling a match event is capped at 900 microseconds). For example, on a particular day, the match event band for XYZ stock may have a minimum time of 450 microseconds and a maximum time of 600 microseconds. The actual match event time is randomized within the match event band throughout the course of the trading day.

Execution of Orders and Match Events

Subscribers can interact with the ASPEN Fee/Fee book using conventional order types. As discussed above, ASPEN Fee/Fee accepts limit orders with optional display instruction, immediate or cancel orders ("IOC") and pegged orders (which are treated as regular orders with an automated repricing to the NBBO). ASPEN Fee/Fee also will accept incoming Intermarket Sweep Orders ("ISOs") once it displays orders on the ADF.⁶

⁵ The matching process in ASPEN is the same across all three ASPEN books.

⁶ The ASPEN Maker/Taker and Taker/Maker books will not accept ISOs, as they will not be displaying orders on the ADF.

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Any order for a security that arrives prior to a match event for that security (and that has not been cancelled, has become unmarketable, or has been repriced prior to the match event) will be eligible to participate in the next match event. Match events are scheduled continuously while the book is in a “matchable state” (*i.e.*, there is an order on each side eligible to match); if there are no orders for a stock in the book, no match event will be scheduled. An incoming order that will make the book potentially matchable will trigger a scheduling of a match event if one has not already been scheduled.

When a new order arrives in the ASPEN Fee/Fee book, it will participate in the next scheduled match event time by interacting with existing orders in the order book. At each match event time ASPEN Fee/Fee retrieves the NBBO and then processes all the orders that have arrived and have not been cancelled in price-time priority, and at each price level, displayed orders will have priority over non-displayed orders.⁷ Any matches are immediately reported to subscribers and the SIP via a FINRA Trade Reporting Facility (“TRF”) and disseminated on the IQX market data feed.

The matching process is completely symmetric, *i.e.*, the match times within IntelligentCross are not chosen to favor a particular side of the trade. No subscribers (or non-subscribers accessing IntelligentCross through a subscriber) are given any type of priority through the matching process, and the matching process is blind to the identity of the subscriber (or a non-subscriber accessing IntelligentCross through a subscriber). Both sides of the trade (buyers and sellers) are on equal footing for the next scheduled match, while maintaining full control of their orders - both sides can cancel or update their orders at any time prior to the match.

Open orders may be amended to the extent the amendment is received before a match event involving that order occurs. Order amendments are processed in the order in which they are received by the ATS.⁸ An open order also may be canceled to the extent the cancellation order is received before a match event involving that order occurs. The ASPEN Fee/Fee book will automatically update its quotations, and all quotation updates, including those due to new or cancelled orders, are immediate. In addition, the ASPEN Fee/Fee book will provide any quotes or quote updates to the ADF no later than what is disseminated via the IQX market data feed. All quotations displayed on ASPEN Fee/Fee also are handled on an automated basis and that there is no human discretion in determining any action taken with respect to an order after the order is received.⁹

⁷ IntelligentCross uses a combination of SIP and proprietary direct feeds from national securities exchanges to determine the NBBO and protected quotes (*e.g.*, for trade through purposes), and to price executions.

⁸ The match priority of an order will be preserved when amending the quantity of an order to a value less than the existing quantity of the order; however, the match priority of an order will be lost when amending the quantity of an order to a value greater than the existing quantity or when amending any other value in addition to the quantity of the order.

⁹ For a list of illustrative use cases of the IntelligentCross matching process, please see the IntelligentCross Form ATS-N.

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Non-Match Events

Situations may occur where an incoming order may not execute against a resting order at match event time, such as when:

- an existing resting order cancels prior to the next match event
- an incoming order is canceled prior to the next match event
- the NBBO moves between the time an order is received and the next match event takes place, making either the incoming order or the resting order non-marketable
- the NBBO changed before the next match event and pegged orders were repriced to the new NBBO, making the incoming order or the resting pegged order non-marketable

For example, assume the NBBO in XYZ Stock is \$10.00 x \$10.01 at 9:30:00.000000 and ASPEN Fee/Fee is displaying a limit order to buy at \$10.00. At 9:30:00.000010, ASPEN Fee/Fee receives a sell order to sell at \$10.00. At 9:30:00.000020, the displayed limit order is cancelled. At 9:30:00.000040, the next scheduled match event in XYZ Stock, no match event occurs as there are no two matchable orders. The same result would occur in this example if a market participant sent a sell order that would have interacted with the buy limit order but then cancels their sell order at any time prior to the next scheduled match event.

Similarly, assume the NBBO in XYZ Stock is \$10.00 x \$10.01 at 9:30:00.000000 and ASPEN Fee/Fee is displaying a limit order to buy at \$10.00. At 9:30:00.000010, ASPEN Fee/Fee receives a sell order to sell at \$10.00. At 9:30:00.000040, the time of the next scheduled match event in XYZ Stock, the NBBO has changed and is now 10.01 x 10.02. A match will not occur as it cannot match outside of the NBBO (*i.e.*, the resting buy order is now non-marketable). Note that if the sell order were an ISO, an execution would occur at \$10.00 at the scheduled match event time.

Finally, assume the NBBO in XYZ Stock is \$10.00 x \$10.01 at 9:30:00.000000 and ASPEN Fee/Fee is displaying a primary peg buy order with a limit of \$10.00. At 9:30:00.000010, ASPEN Fee/Fee receives a sell order to sell at \$10.00. At 9:30:00.000040, the time of the next scheduled match event in XYZ Stock, the NBBO is now 9.99 x 10.01. A match will not occur as the pegged order follows the NBBO and gets repriced to 9.99. If the NBBO had moved to \$10.01 x \$10.02, ASPEN Fee/Fee's primary peg would not reprice as it is limited to \$10.00, and a match would not occur.

These non-match events occur in a minority of cases. Year-to-date (through the end of November 2022), 4.2 percent of potential matches on ASPEN Fee/Fee did not complete because a displayed order was canceled, and 4.7 percent of potential matches did not complete because the NBBO changed and at least one of the sides became non-marketable.¹⁰ In such cases, subscribers exercised their right to change their orders or, in the case of pegged orders, instructed IntelligentCross to change their orders in reaction to NBBO changes.

¹⁰ Based on statistics of 193,598 daily match events in IntelligentCross that involved a displayed order, from January 2022 through November 2022.

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 December 15, 2022
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IV. Connectivity Information

IntelligentCross subscribers access the ATS via a Financial Information Exchange ("FIX") connection. Such access is available to subscribers through an internet protocol address via communications that are compliant with the FIX API provided by IntelligentCross; the ATS currently supports FIX 4.2. IntelligentCross does not accept orders via any other forms of communication (*e.g.*, telephone, email, instant message).

IntelligentCross' primary matching engines are located in the Equinix NY4 data center in Secaucus, New Jersey. Subscribers wanting to connect directly to IntelligentCross' User Acceptance Testing ("UAT") and Production servers will need to have NY4 cross-connects with the servers of IntelligentCross' co-location and network provider, Pico Quantitative Trading ("Pico") or connect through other network service providers that have a presence in NY4. IntelligentCross is not involved in the installation of cross-connects; a subscriber wishing to cross-connect must deal directly with the network service provider in NY4. Standard NY4 cross connects are single mode, 1 GBps, however, IntelligentCross will support multi-mode, 10Gbps upon subscriber request. IntelligentCross also allows subscribers the ability to determine its level of connectivity. IntelligentCross has a clearing agreement with Instinet, LLC to provide for clearance and settlement of transactions executed on the ATS.

V. Fair Access Information

IntelligentCross operates as an open, fair access market, *i.e.*, it does not tier or discriminate among subscribers. Any registered US broker-dealer can be a member of IntelligentCross, and IntelligentCross only permits registered broker-dealers to be subscribers. All firms also must be in good standing of an SRO to be eligible to become a subscriber. Subscribers also must satisfy certain other eligibility requirements.¹¹

IntelligentCross processes all applications and completes its review and approval/denial process within thirty calendar days of receipt of each completed subscriber application. Each approval or denial must be authorized by the Chief Compliance Officer and communicated to the Head of Trading Operations. Trading Operations will then promptly notify the applicant of the decision.

IntelligentCross creates and maintains records of all decisions granting access, denying access, and the reasons for so doing. IntelligentCross considers a subscriber's regulatory history in examining a subscriber's application. A subscriber can be excluded from IntelligentCross if the subscriber no longer satisfies the eligibility requirements for acceptance as a subscriber. When the ASPEN Fee/Fee book displays orders through the ADF, non-subscribers would access

¹¹ For example, a subscriber must pass Office of Foreign Asset Control ("OFAC") checks and pass disciplinary/regulatory reviews. A subscriber also must satisfy such technical or systems requirements as may be prescribed by IntelligentCross, including but not limited to: connectivity certification, the ability to send orders and cancellations, and to receive trades, cancellations, rejects and trade breaks from the ATS; must have clearing and settlement systems and/or arrangements in place to support participation on the ATS; attest to having in place arrangements to ensure all staff and systems involved in the conduct of business with IntelligentCross are suitable, adequately registered, as applicable, properly trained and supervised; execute the Subscriber Agreement; and execute all other applicable agreements required to facilitate clearance, settlement, trade reporting, error correction and cancellation of trades effected on or through the ATS.

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IntelligentCross through a subscriber, and IntelligentCross would therefore respond to orders by non-subscribers as promptly as it responds to orders by subscribers.

As part of its display of orders through the ADF, IntelligentCross also will maintain policies and procedures designed to maintain a linkage with the ADF and transmit to the ADF for display the best priced orders entered by its subscribers.

Overall, IntelligentCross provides access to orders that is functionally equivalent to the access that is generally available for quotes displayed by a SRO trading facility or, for orders displayed in an SRO display-only facility, a level and cost of access that is substantially similar to the level and cost of access to quotations displayed by SRO trading facilities in that stock.¹²

VI. Capacity and System Integrity Information

The operation of IntelligentCross is continuously monitored by IntelligentCross' trading operations team to ensure the smooth and correct functioning of the system as well as adherence to IntelligentCross' operating procedures and applicable securities rules and regulations. Authorized personnel can monitor order entry port status, order acknowledgement latency, market data quality, and potential trade-throughs, in addition to detailed metrics on order entry rates, open and executed exposures, and executed volumes.

In addition to real-time monitoring, any anomalies in the activities in IntelligentCross will be reviewed using end-of-day reports. In the event of a problem, such as a systems error at a subscriber or market data issues, trading operations may, among other actions, halt the activity of a subscriber or set of subscribers and/or stock or set of stocks to contain the impact of a problem while pursuing a resolution.

IntelligentCross also has policies and procedures related to periodic system capacity reviews and tests to ensure future capacity, as well as policies and procedures to identify potential weaknesses and reduce the risks of system failures and threats to system integrity. Significantly, for purposes of displaying orders through the ADF, IntelligentCross' policies and procedures require continuous monitoring of its connections with SRO display-only facilities and, in the event that IntelligentCross loses connection with the ADF, IntelligentCross has contingency plans in place, including removing (*i.e.*, zeroing out) all quotes previously published by the system to the ADF and notifying its subscribers of such interruption.

¹² As discussed above, the IntelligentCross ATS operates two different matching models – a Midpoint book and ASPEN. IntelligentCross recognizes that should trading on ASPEN Fee/Fee reach the applicable thresholds under certain Regulation ATS rules (*e.g.*, the “Fair Access Rule” under Rule 301(b)(5) or the order display and execution access requirements under Rule 301(b)(3)), that any requirements would be applicable across all IntelligentCross order books. In addition, as IntelligentCross' volume increases, we acknowledge that other regulatory obligations associated with reaching certain volume thresholds may become applicable in the future (*e.g.*, obligations under Regulation Systems Compliance and Integrity).

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VII. Fee Information

The IntelligentCross fee schedule is transparent, formulaic and applies to all subscribers evenly. The fee structure applicable to the ADF through the ASPEN Fee/Fee book charges both sides the same fee for transactions. The base rate charged in ASPEN Fee/Fee is \$0.0008 per share for each side of a transaction. Subscribers can pay lower fees through (1) a “Total Composite Volume Incentive” based on the total market volume in all NMS Stocks reported to the consolidated tape and (2) an “Active Order Incentive” which is based on a per symbol basis and the percent that is marketable.¹³ The fee schedule for subscribers is published in the IntelligentCross Form ATS-N. Pricing is subject to change with advanced notice to subscribers.

As discussed above, IntelligentCross only accepts orders from broker-dealer subscribers, and non-subscribers can access IntelligentCross through a subscriber; therefore IntelligentCross’ fee arrangements are with subscribers. IntelligentCross itself does not charge for market data through its market data feed, IQX. IntelligentCross also does not currently charge connectivity fees, and IntelligentCross offers to pay for certain of subscribers’ cross-connect fees at NY4. IntelligentCross also currently covers payment for one primary connection and one back-up connection to access its venue, and any direct subscriber is eligible for this payment. Network providers may charge a fee to receive the IQX data feed that recipients are responsible for paying and IntelligentCross’ network provider and other similar network providers may charge fees relating to connectivity. IntelligentCross believes the level and cost of access to its quotations complies with Rule 610 of Regulation NMS and will be substantially equivalent to the cost of access to quotations displayed by SRO trading facilities in that stock and the costs to connect to any other trading center, such as an exchange.¹⁴

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Please do not hesitate to contact the undersigned at ari.burstein@imperativex.com should you have any additional questions regarding this matter.

Sincerely,



Ari Burstein
General Counsel
Imperative Execution

¹³ The ASPEN Fee/Fee and Midpoint order books follow the same fee schedule, and shares traded will aggregate for volume pricing tiers. The ASPEN Maker/Taker and Taker/Maker order books are charged independently.

¹⁴ In the event that IntelligentCross makes a material change to the policies and procedures governing access to IntelligentCross, including a change to its fees, it will submit the changes to the SEC, as required, under Form ATS-N and also will provide the changes made to FINRA. We recognize that FINRA will post an amended description of such policies, procedures and fees governing access on its website.