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August 22, 2023

Vanessa Countryman  
Secretary  
U.S. Securities and Exchange Commission  
100 F Street, N.E.  
Washington, D.C. 20549-0609

**Via email to [rule-comments@sec.gov](mailto:rule-comments@sec.gov)**

**Re: File No. SR-FINRA-2022-032 – Proposed Rule Change Relating to  
Alternative Display Facility Entrant**

Dear Ms. Countryman:

This letter is being submitted by the Financial Industry Regulatory Authority, Inc. (“FINRA”) in response to comments received by the Securities and Exchange Commission (“SEC” or “Commission”) regarding the above-referenced rule filing. The proposed rule change would add IntelligentCross alternative trading system (“ATS”) (“IntelligentCross”) as a new entrant to the Alternative Display Facility (“ADF”).

The Commission published the proposed rule change for public comment in the Federal Register on December 27, 2022.<sup>1</sup> On February 9, 2023, the Commission designated a longer period for action on the proposed rule change.<sup>2</sup> The Commission received eight comment letters on the Proposal.<sup>3</sup> On March 13, 2023, FINRA submitted

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<sup>1</sup> See Securities Exchange Act Release No. 96550 (December 20, 2022), 87 FR 79401 (Notice of Filing of File No. SR-FINRA-2022-032) (“Proposal”).

<sup>2</sup> See Securities Exchange Act Release No. 96864 (February 9, 2023), 88 FR 9945 (February 15, 2023) (Notice of Designation of a Longer Period for Commission Action on File No. SR-FINRA-2022-032).

<sup>3</sup> See Letter from Tyler Gellasch, President and CEO, Healthy Markets Association, to Vanessa A. Countryman, Secretary, SEC, dated January 13, 2023 (“Healthy Markets #1”); Letter from Joanna Mallers, Secretary, FIA Principal Traders Group, to Vanessa A. Countryman, Secretary, SEC, dated January 17, 2023 (“FIA Principal Traders Group #1”); Letter from Brett Kitt, Associate Vice President &

a response letter to the comments received.<sup>4</sup> On March 24, 2023, the Commission instituted proceedings to determine whether to approve or disapprove the proposed rule change.<sup>5</sup> The Commission received four additional comment letters on the proposed rule change.<sup>6</sup> On June 21, 2023, the Commission designated a longer period for action on proceedings to determine whether to approve or disapprove the proposed rule change.<sup>7</sup>

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Principal Associate General Counsel, Nasdaq, Inc., to Vanessa A. Countryman, Secretary, SEC, dated January 17, 2023 (“Nasdaq”); Letter from Nataliya Bershova, MD, Head of Execution Research, Sanford C. Bernstein & Co., LLC, to Vanessa A. Countryman, Secretary, SEC, dated January 17, 2023 (“Sanford”); Letter from Stephen John Berger, Managing Director, Global Head of Government & Regulatory Policy, Citadel Securities, to Vanessa A. Countryman, Secretary, SEC, dated January 23, 2023 (“Citadel #1”); Letter from Ellen Greene, Managing Director, Equities & Options Market Structure, Securities Industry and Financial Markets Association, to Vanessa A. Countryman, Secretary, SEC, dated February 8, 2023 (“SIFMA”); Letter from Ari Burstein, General Counsel, Imperative Execution, to Vanessa A. Countryman, Secretary, SEC, dated February 16, 2023 (“Imperative Execution #1”); and Letter from Joanna Mallers, Secretary, FIA Principal Traders Group, to Vanessa A. Countryman, Secretary, SEC, dated March 8, 2023 (FIA Principal Traders Group #2).

<sup>4</sup> See Letter from Faisal Sheikh, Assistant General Counsel, FINRA, to Vanessa A. Countryman, Secretary, SEC, dated March 13, 2023 (“FINRA Letter”).

<sup>5</sup> See Securities Exchange Act Release No. 97195 (March 24, 2023), 88 FR 19173 (March 30, 2023) (Order Instituting Proceedings to Determine Whether to Approve or Disapprove File No. SR-FINRA-2022-032).

<sup>6</sup> See Letter from Tyler Gellasch, President and CEO, Healthy Markets Association, to Vanessa A. Countryman, Secretary, SEC, dated March 14, 2023 (“Healthy Markets #2”); Letter from John Ramsay, Chief Market Policy Officer, Investors Exchange LLC, to Vanessa A. Countryman, Secretary, SEC, dated April 14, 2023 (“IEX #1”); Letter from Stephen John Berger, Managing Director, Global Head of Government & Regulatory Policy, Citadel Securities, to Vanessa A. Countryman, Secretary, SEC, dated May 4, 2023 (“Citadel #2”); and Letter from Ari Burstein, General Counsel, Imperative Execution, to Vanessa A. Countryman, Secretary, SEC, dated July 14, 2023 (“Imperative Execution #2”).

<sup>7</sup> See Securities Exchange Act Release No. 97784 (June 21, 2023), 88 FR 41710 (June 27, 2023) (Notice of Designation of a Longer Period for Commission

The Commission subsequently received two comment letters on the proposed rule change.<sup>8</sup> The following are FINRA's responses to the material aspects of the additional comments received.

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Commenters raised concerns regarding various aspects of IntelligentCross' operations and the appropriateness of its quotations as "protected quotations" under Regulation NMS.<sup>9</sup> Among other things, commenters continued to raise concerns that IntelligentCross' quotations should not be considered "automated quotations" due to the delay in its matching process<sup>10</sup> and that there was an insufficient degree of transparency concerning IntelligentCross' use of artificial intelligence,<sup>11</sup> among other issues. One commenter further asserted that FINRA has not properly evaluated issues around whether IntelligentCross' quotations are consistent with the Exchange Act's requirements for protected quotations.<sup>12</sup>

FINRA disagrees with commenters' assertions. In FINRA's proposed rule change to add IntelligentCross as a new entrant to ADF, FINRA provided its reasoned analysis of the appropriateness of IntelligentCross' quotations as "protected quotations" under Regulation NMS, including an analysis of Regulation NMS's definition of "automated quotation" as well as of the level and cost of access to IntelligentCross' quotations that would be displayed on the ADF. Since then, in addition to FINRA's prior

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Action on Proceedings to Determine Whether to Approve or Disapprove File No. SR-FINRA-2022-032).

<sup>8</sup> See Letter from Stephen John Berger, Managing Director, Global Head of Government & Regulatory Policy, Citadel Securities, to Vanessa A. Countryman, Secretary, SEC, dated August 3, 2023 ("Citadel #3"); and Letter from John Ramsay, Chief Market Policy Officer, Investors Exchange LLC, to Vanessa A. Countryman, Secretary, SEC, dated August 4, 2023 ("IEX #2").

<sup>9</sup> See Citadel #2 & Citadel #3, Healthy Markets #2, and IEX #1 & IEX #2.

<sup>10</sup> See Citadel #2, Citadel #3, and Healthy Markets #2.

<sup>11</sup> See IEX #1, IEX #2, and Healthy Markets #2.

<sup>12</sup> See Citadel #2 and Citadel #3.

letter responding to comments,<sup>13</sup> IntelligentCross has submitted two comment letters to the Commission responding in detail to comments received by the Commission regarding the operation of its ATS and whether its quotes should qualify as “protected quotations” under Regulation NMS.<sup>14</sup> Therefore, the Commission has available detailed information regarding IntelligentCross’ operations and the nature of its quotations that is sufficient to enable the Commission to make a substantive determination regarding whether FINRA’s rule filing to add IntelligentCross as an ADF participant is consistent with the Exchange Act.

In addition to the above issues, commenters also raised concern regarding the potential that IntelligentCross may in the future implement material changes to its operations or pricing structure that would alter the analysis under Regulation NMS.<sup>15</sup> FINRA notes that, in addition to Regulation NMS, FINRA rules set forth requirements applicable to an ADF participant and require that such participants meet the requisite standards on an ongoing basis (*see e.g.*, Rule 6250 (Quote and Order Access requirements)).<sup>16</sup> Because an ADF participant may seek to make changes over time, FINRA, in its proposed rule change, stated that:

“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.”<sup>17</sup>

However, in further response to commenter concerns regarding the potential for future material changes to IntelligentCross, and if the Commission believes that doing so would be a reasonable and appropriate means for FINRA to meet its obligations, FINRA would submit to the Commission a proposed rule change under Section 19(b) of the Exchange

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<sup>13</sup> See FINRA Letter.

<sup>14</sup> See Imperative Execution #1 and Imperative Execution #2.

<sup>15</sup> See Healthy Markets #2 and IEX #2.

<sup>16</sup> See *generally* Rule 6200 Series (Alternative Display Facility).

<sup>17</sup> See Proposal, *supra* note 1, 87 FR 79401, 79404 n.43.

Act should FINRA receive notice and information from IntelligentCross of a planned material change that may alter the analysis under Regulation NMS of whether IntelligentCross' quotations should continue to be ADF-eligible as protected quotations under Regulation NMS.<sup>18</sup>

Finally, commenters have requested additional information regarding the results of FINRA's ADF testing and for confirmation that quotes received from IntelligentCross would be disseminated via the SIP in less than one millisecond.<sup>19</sup> As noted in the FINRA Letter, FINRA has continued to test the ADF application with IntelligentCross based on projected capacity requirements, focusing on application latency – the amount of time between when the ADF application receives a quote from an ADF participant and when the ADF application transmits the quote to the appropriate SIP for display.

On July 29, 2023, FINRA conducted a stress test of the ADF application (*i.e.*, a test of FINRA's ADF infrastructure only, which did not include the SIPs) using FINRA's message drivers<sup>20</sup> to generate message traffic and measure latency at maximum message rate throughput (as measured in messages per second or "mps").<sup>21</sup> Using IntelligentCross' maximum projected message rate (which is significantly higher than that likely to be experienced in production), the ADF had an average application latency of 25 microseconds (with a maximum of 36 microseconds) in CQS securities and an average application latency of 44 microseconds (with a maximum of 84 microseconds) in UTP securities. At a maximum sustained message rate of 131k mps (approximately 45% higher than the maximum projected production rates), the ADF had an average application latency of 75 microseconds (with a maximum of 92 microseconds) in UTP securities and an average application latency of 71 microseconds (with a maximum of 133 microseconds) in CQS securities.

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<sup>18</sup> In its letter, IntelligentCross stated that it does not object to FINRA submitting proposed rule changes to the Commission with respect to IntelligentCross' material changes. FINRA also notes that IntelligentCross, as an ATS for NMS stocks, is required to submit changes to the SEC under Form ATS-N. *See* Imperative Execution #2.

<sup>19</sup> *See* Healthy Markets #2; *see also* IEX #1, and IEX #2.

<sup>20</sup> FINRA's message drivers are programmatic tools employed by FINRA to generate ADF Participant quote and trade message traffic for the purposes of both stress and functional testing.

<sup>21</sup> Maximum message rate throughput is considered the highest sustained message rates (in messages per second) that were processed through the ADF application.

Additionally, on August 5, 2023, FINRA, IntelligentCross, and the SIPs conducted a joint high volume stress test of the ADF (as with the July 29 test, significantly higher volumes were processed than that projected in production), with IntelligentCross providing the message traffic. The maximum sustained message rate for the test was 126k mps (approximately 40% higher than the maximum projected production rates). The SIPs produced statistics measuring the amount of time between when the ADF application receives a quote from an ADF Participant and when the quote is disseminated by the SIP.<sup>22</sup> The UTP SIP showed that the ADF had the following latencies: (i) 7 microseconds at the 10<sup>th</sup> percentile; (ii) 31 microseconds at the 50<sup>th</sup> percentile; (iii) 98 microseconds at 90<sup>th</sup> percentile; (iv) 157 microseconds at 95<sup>th</sup> percentile; (v) 322 microseconds at the 99<sup>th</sup> percentile; (vi) 9,330 microseconds at the 99.9<sup>th</sup> percentile; and (vii) 195,967 microseconds at the 99.99<sup>th</sup> percentile. The CQS SIP showed the following latencies: (i) 621.56 microseconds at the 10<sup>th</sup> percentile; (ii) 676.038 microseconds at the 50<sup>th</sup> percentile; (iii) 852.219 microseconds at the 90<sup>th</sup> percentile; (iv) 1,161.343 microseconds at the 95<sup>th</sup> percentile; (v) 3,318.708 microseconds at the 99<sup>th</sup> percentile; (vi) 987,520.262 microseconds at the 99.9<sup>th</sup> percentile; and (vii) 2,143,763.936 microseconds at the 99.99<sup>th</sup> percentile.

As stated above, these ADF tests were conducted as stress tests that included processing volumes and sustained message rates well in excess of those likely to be experienced in production. FINRA expects that ADF latency in production would be lower than in such stress tests. Thus, FINRA believes that ADF latency is generally in line with exchange latency to dissemination by the SIPs, and FINRA will continue to conduct testing and explore technological enhancements that may further reduce ADF latency.

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<sup>22</sup> FINRA notes that each of the SIPs publish latency metrics for Plan Participants on their websites based on the measure of time from the point of inception of the Participant matching engine event (e.g., order execution, TOB update) to the point of dissemination from the SIP. *See* CTA Plan website ([www.ctaplan.com/latency-charts](http://www.ctaplan.com/latency-charts)) and UTP Plan website ([www.utpplan.com/latency\\_charts](http://www.utpplan.com/latency_charts)). FINRA expects that the SIPs will generate similar statistics for the ADF once the platform is operational.

Vanessa Countryman  
August 22, 2023  
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FINRA believes that the foregoing responds to the material issues raised by commenters. If you have any questions, please contact me at (202) 728-8379.

Sincerely,

/s/ Faisal Sheikh

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FINRA Office of General Counsel  
Capital Markets