

HUDSON RIVER TRADING LLC

January 7, 2016

Brent J. Fields
Secretary
U.S. Securities and Exchange Commission
100 F Street, NE
Washington, D.C. 20549

Re: Investors' Exchange LLC Form 1 Application
(Release No. 34-75925; File No. 10-222)

Dear Mr. Fields:

Hudson River Trading LLC ("Hudson River Trading") appreciates the opportunity to submit a second comment letter on the proposed Investors' Exchange LLC ("IEX") exchange application. Many of the IEX exchange application comment letters have focused on the IEX Point of Presence ("POP") which involves a 350 microsecond delay ("speed bump") that IEX claims is intended to address "latency arbitrage." Hudson River Trading submitted an initial comment letter¹ that focused on how the speed bump operates and provides certain IEX order types with an unfair advantage over its members and other exchanges. In this letter, we focus on how IEX addresses latency arbitrage and highlight the larger market structure implications posed by the IEX application including impartial access, fair competition, Regulation NMS and price discovery. We also provide, by way of example, some alternative solutions on how the overall policy objectives posed by the IEX application could be met in a manner that is not disruptive to overall market quality.

IEX initially describes latency arbitrage as follows ("Definition 1"):

"The POP was thus designed to protect against investor harm from latency arbitrage that is enabled when a participant on a particular trading venue, with preferential co-location access, is able to observe quickly price changes on that venue, and race to execute an order on another trading venue before those price changes are communicated to the other trading venue's systems."²

In order to address this, IEX delays all incoming orders, but not incoming market data from other exchanges, to ensure that IEX is able to update the prices of hidden pegged orders ahead of other market participants executing against those orders before IEX is able to update the price. This has the effect of ensuring that pegged orders on IEX are executed at current bid and offer prices.

¹ See Letter to Brent J. Fields, Secretary, SEC, from Adam Nunes, Head of Business Development, Hudson River Trading LLC (December 4, 2015).

² See Letter to Brent J. Fields, Secretary, SEC, from Sophia Lee, General Counsel, IEX Group, Inc. (November 13, 2015).

IEX then goes on to provide another definition of latency arbitrage (“Definition 2”):

“Similarly, the POP enables a market participant to safely send an order concurrently to IEX and other trading venues, without the risk that the order execution on IEX will provide a signal to market participants engaged in latency arbitrage who can then cancel their quotes on other trading venues to avoid execution.”³

In order to address this, IEX delays execution acknowledgements to members and outgoing market data (excluding Securities Information Processor data, which is inherently slower) in order to ensure that its affiliated broker-dealer router (“IEX BD Router”) is able to access quotes on other markets before other market participants can respond to the information associated with trades on IEX allowing the other market participant to either update its quotes on other markets or route orders intended to trade with those quotes. This has the effect of maximizing the IEX BD Router’s fill rate.

Hudson River Trading provided detailed examples of these behaviors in its previous comment letter. We attempted to demonstrate that for every order on IEX that benefits from the speed bump, another order is harmed by the speed bump. In fact, the speed bump protects a pegged order from latency arbitrage (Definition 1 of latency arbitrage) by allowing IEX, which isn’t subject to the speed bump, to commit Definition 2 of latency arbitrage: the speed bump ensures that IEX can cancel and replace its pegged order by processing and responding to information before other market participants can.⁴ Similarly, the speed bump protects IEX users from having executions on IEX provide a signal to cancel quotes on other exchanges (Definition 2) by allowing the IEX BD Router, which has preferential access to the IEX exchange, to commit Definition 1 of latency arbitrage: the IEX BD Router has preferential access to observe price changes on IEX and race to execute orders on other trading venues before those price changes are communicated. More concisely, when IEX protects its users from Definition 1 of latency arbitrage, it does so by committing Definition 2 and when it protects its users from Definition 2, it does so by committing Definition 1. While the speed bump is designed to prevent other exchanges or market participants from engaging in latency arbitrage, it is also designed to structurally ensure that IEX can engage in latency arbitrage. If IEX is permitted to have a speed bump to prevent other exchanges and market participants from engaging in latency arbitrage, we

³ *Id.* As we described in our previous comment letter, we do not believe that this contention is true. As we described in Example 4 of our letter, by sending an order to multiple exchanges concurrently, the order may result in a quote update, allowing IEX to update the price of pegged orders before the order is processed by the IEX matching engine. *See* Letter to Brent J. Fields, Secretary, SEC, from Adam Nunes, Head of Business Development, Hudson River Trading LLC (December 4, 2015).

⁴ T. Rowe Price noted an example from our previous comment letter in which IEX commits Definition 2 of latency arbitrage to protect a pegged order on IEX from Definition 1 of latency arbitrage. *See* Letter to Brent J. Fields, Secretary, SEC, from Clive Williams, Vice President and Head of Global Trading, T. Rowe Price Associates, Inc. (December 24, 2015).

anticipate other exchanges will implement speed bumps in order to protect their members from the IEX BD Router.⁵

IEX has addressed the issue as follows: “Finally, we believe that these objections fundamentally rest on a false premise, namely, that in order for an entity to be approved as a national securities exchange, the entity cannot adopt *any* means to counter latency arbitrage or, conversely, that exchanges are required to enable individual trading firms to gain an advantage in any circumstance in which their technology (coupled with the exchange’s own technology) will permit.”⁶

To the contrary, we believe that IEX has presented a false dichotomy—either approve IEX as-is or an exchange cannot adopt *any* means to counter latency arbitrage. We believe that there is room for exchanges to adopt means designed to address issues associated with latency arbitrage (e.g., maximizing fill rates and attempting to ensure that orders are executed at the current bid and offer). However, because IEX’s approach to addressing latency arbitrage (1) creates fairness issues with respect to impartial access to the exchange, (2) raises issues with respect to fair competition among exchanges, (3) potentially degrades price discovery and market quality, and (4) would require an exception under Regulation NMS,⁷ we believe that they have a high burden of proof of investor benefit in order to justify such a policy. Otherwise, approval of such proposals risks doing more harm than good. In addition, we believe that there is a high burden of proof that alternative approaches to addressing the issues are not available.

In this letter, we aim to demonstrate that ensuring current pricing for pegged orders can be addressed without delaying all incoming orders. We further aim to demonstrate that maximizing fill rates can be addressed without preferentially granting the IEX BD Router real-time access to the IEX exchange ahead of all other market participants. We believe that both of IEX’s definitions of latency arbitrage can be addressed without the negative consequences to impartial access to the exchange, fair competition, Regulation NMS and price discovery. IEX’s application is therefore unnecessarily disruptive in light of alternative means to addressing the issues they have raised.

Latency Arbitrage Definition 1 - IEX Pegged Orders

IEX delays all incoming orders, but not incoming market data from other exchanges, to ensure that it is able to update the prices of hidden pegged orders before other market participants can execute against those orders before IEX is able to update the price. The delay to incoming orders

⁵ Furthermore, if IEX is approved to implement a speed bump to protect its members from Definition 1 of latency arbitrage, we believe that other exchanges would be justified in implementing a speed bump for the IEX BD Router in order to give such exchanges time to update pegged order prices before the IEX BD Router is able to execute.

⁶ See Letter to Brent J. Fields, Secretary, SEC, from Sophia Lee, General Counsel, IEX Group, Inc. (November 13, 2015).

⁷ Hudson River Trading is encouraged by the Commission’s review of Regulation NMS through the Equity Market Structure Advisory Committee; however, we believe it is critical to apply current rules fairly to all market participants and that creating an exception for IEX is a violation of that principle.

is designed to ensure that those orders are not based on price changes that have yet to be reflected in the IEX hidden pegged order price.

This delay raises issues associated with Regulation NMS as it constitutes an intentional delay in access to a protected quote under Regulation NMS. It also raises issues associated with fairness as incoming orders are subject to the delay, whereas pegged order updates and the IEX BD Router are not. More importantly, IEX delays all transparent displayed orders that are critical to price discovery without altering the outcomes of those orders. The delay of transparent orders is for the benefit of hidden, pegged orders that free-ride on price discovery. The priorities associated with such a policy proposal are backwards as such a policy discourages pre-trade transparency and price discovery in favor of dark orders that make up a small portion of exchange volume⁸ and do not contribute to pre-trade transparency.

Rather than using its proposed approach, IEX could allow any order that foregoes potential price improvement associated with interacting with hidden mid-point peg orders to by-pass the delay and interact with protected quotes.⁹ Doing so would eliminate the possibility that these orders would interact with hidden pegged orders resulting in an execution at a bid and offer price that has not yet been adjusted by IEX while allowing immediate access to IEX's protected quotations. This "by-pass order" would allow IEX to provide real-time access to its protected quotes, eliminating any concerns associated with Regulation NMS or fairness and would allow displayed orders on IEX to more fully participate in price discovery.

IEX could still allow hidden pegged orders to interact with all other order flow that does not opt-out by sending by-pass orders. We believe that such a model would provide a more appropriate trade-off between price discovery and protecting hidden pegged orders from executions at prices that have not been updated. We do not believe it is appropriate to delay all orders on IEX, with the effect of impeding price discovery market-wide for the benefit of hidden pegged orders when alternative approaches to ensure repricing pegged orders are available.

Latency Arbitrage Definition 2 - IEX BD Router

The IEX BD Router attempts to maximize its fill rate by delaying execution acknowledgments and outgoing proprietary market data to other exchanges and market participants, but does not delay communication with the IEX BD Router, in order to ensure that the IEX BD Router is able to route orders to execute against quotes on other exchanges before other exchanges or market participants can react to the information and either update its prices on other exchanges or route orders that may compete with IEX's orders.

⁸ Usage of non-displayed pegged order types like the ones the POP would affect is limited. For instance, approximately 3.87% of executed volume on NYSE ARCA results from pegged orders in November and on BATS, approximately 6.36% of executed volume was non-displayed in December 2015. See https://www.nyse.com/publicdocs/nyse/markets/nyse-arca/NYSE_Arca_Order_Type_Usage.pdf; http://www.batstrading.com/market_data/order_types/.

⁹ Under Canada's Order Protection Rule, firms must send such bypass orders when displacing a protected quotation. See "Proposed Provisions Respecting the Order Protection Rule," IIROC, May 14, 2014, page 9 available at http://www.iiroc.ca/Documents/2014/3f942064-7077-4e57-963b-41ec79373cd0_en.pdf.

Delaying direct market data and execution acknowledgments has the effect of delaying price discovery as all market participants will use the delayed, stale quotes that IEX communicates.¹⁰ Such delayed quote information will mean that other exchanges and ATSS will rely on stale quotes in pricing pegged orders on their markets, making them susceptible to trading at the stale prices IEX seeks to avoid on its market. Providing the IEX BD Router with preferential access to the IEX exchange raises fairness concerns under the Securities Exchange Act of 1934¹¹ and Regulation NMS Rule 610.¹²

As an example of an alternative approach, in 2012, Nasdaq filed a routing strategy designed to reduce information leakage (and the potential for firms to respond to executions on Nasdaq by updating quotes on competing exchanges) by simultaneously routing orders to Nasdaq and other exchanges; previously Nasdaq first sent the order to Nasdaq, then to other markets.¹³ Nasdaq was able to address information leakage without delaying market data or execution acknowledgments to members. Although Nasdaq's proposal was directed at combatting IEX's Definition 2 of latency arbitrage, the proposal did not have a negative impact on price discovery or market quality and was ultimately approved without any comment letters from market participants.

Even if IEX does not believe that Nasdaq's structure sufficiently protects members from latency arbitrage, less disruptive measures are available. Instead of providing the IEX BD Router with real-time access to the exchange while delaying outgoing execution acknowledgments and direct market data, IEX could simply time the sending of orders to other exchanges to accomplish the same outcome. For example, if it takes IEX 50 microseconds to route to exchange A and 100 microseconds to route to exchange B and zero microseconds to route to IEX, it could simply route to exchange B first, followed by exchange A 50 microseconds later, followed by IEX another 50 microseconds later. This would have the effect of having its orders arrive simultaneously on all exchanges, eliminating the possibility of another market participant responding to IEX's executions on any market.

This approach does not require that IEX delay any execution acknowledgments or market data and more closely resembles routing behavior of independent broker-dealers. In addition, more timely market data would provide more accurate market data to all market participants, resulting in improved price discovery. This approach may not maximize both routable order fill rates *and* executions on the IEX exchange. However, we do not believe that IEX should have the ability to degrade overall market quality for its commercial interest.

¹⁰ In Section 11(A) of the Securities Exchange Act of 1934, Congress finds that it is in the public interest to ensure “the availability to brokers, dealers, and investors of information with respect to quotations for and transactions in securities.”

¹¹ In Section 11(A) of the Securities Exchange Act of 1934, Congress finds that it is in the public interest to ensure “fair competition among brokers and dealers, among exchange markets, and between exchange markets and markets other than exchange markets.”

¹² See SEC Release No. 34-51808 (June 9, 2005) (File No. S7-10-04).

¹³ See SEC Release No. 34-67246 (June 25, 2012) (SR-NASDAQ-2012-071).

We believe that, as currently proposed, the IEX model has the potential to degrade market quality, substantially change for the worse the notions of fair and impartial access, harm competition among exchanges and require an exception to Regulation NMS. In addition, the speed bump allows IEX to engage in the activities it claims it is designed to prevent. We do not believe this is justified in light of alternative means of achieving IEX's goals of responding to latency arbitrage by maximizing fill rates and ensuring that it is able to update prices of pegged orders before other market participants can respond. The alternative measures that we described are not meant as recommendations; rather they are provided to demonstrate that there are alternatives to the model that IEX has proposed that fit within existing market rules and promote market quality and price discovery, yet yield similar results with respect to maximizing fill rates and ensuring pegged orders are executed at current bid and offer prices.

Please do not hesitate to contact me if you have any questions or would like to discuss this letter.

Sincerely,

/s/ Adam Nunes

Adam Nunes
Head of Business Development