April 10, 2016

Mr. Brent J. Fields
Secretary
U.S. Securities and Exchange Commission
100 F. Street N.E.
Washington, D.C. 20549-1090

Re: Investor’s Exchange LLC Form 1 Application (Release No. 34-75925; File No. 10-222)

Dear Mr. Fields:

We appreciate this opportunity to comment on the Investor’s Exchange LLC (“IEX”)’s Form 1 application for registration as a national securities exchange (the “IEX Application”). This comment letter has been supervised by Professors Jonathan Macey and Logan Beirne through the Financial Markets & Corporate Law Clinic at Yale Law School.

We support the IEX Application and encourage the Commission to promptly approve it. We recognize, however, that there are a number of unsettled issues surrounding the IEX Application. Among these issues, we focus on whether IEX’s quotes qualify as “automated quotations” under Regulation NMS. This issue is significant because it determines whether IEX’s displayed quotes are entitled to trade-through protection under Rule 611 of Regulation NMS, also known as the Order Protection Rule.

The scope of the Order Protection Rule is circumscribed: Rule 611(a) limits the protection to the trading centers of “protected quotations in NMS stocks that do not fall within an exception set forth in paragraph (b).” A protected quotation, as defined by Rule 600(b)(58), is a “protected bid or a protected offer,” which, in turn, is defined under Rule 600(b)(57) as a quotation in an NMS stock that:

(i) is displayed by an automated trading center; (ii) is disseminated pursuant to an effective national market system plan; and (iii) is an automated quotation that is the best bid or best offer of a national securities exchange, the best bid or best offer of The Nasdaq Stock Market, Inc., or the best bid or best offer of a national securities

2 This comment letter does not purport to express, if any, the views of Yale Law School or any individual faculty.
3 17 CFR 242.611(a) [emphasis added].
4 17 CFR 242.600(b)(58).
association other than the best bid or best offer of The Nasdaq Stock Market, Inc.⁵

Under Rule 600(b)(4), an “automated trading center” must have “implemented such systems, procedures, and rules as a necessary to render it capable of displaying quotations that meet the requirements for an ‘automated quotation’ set forth” in Rule 600(b)(3).⁶ In turn, Rule 600(b)(3) defines an “automated quotation” as a quotation displayed by a trading center that:

(i) permits an incoming order to be marked as immediate-or-cancel;
(ii) immediately and automatically executes an order marked as immediate-or-cancel against the displayed quotation up to its full size
(iii) immediately and automatically cancels any unexecuted portion of an order marked as immediate-or-cancel without routing the order elsewhere; (iv) immediately and automatically transmits a response to the sender of an order marked as immediate-or-cancel indicating the action taken with respect to such order; and (v) immediately and automatically displays information that updates the displayed quotation to reflect any change to its material terms.⁷

Disputes exist as to whether the distinctive feature of IEX’s design—“the Point-of-Presence and coil access delay”⁸ of 350 microseconds, as the Commission calls it—would render IEX’s quotation non-immediate and preclude it from qualifying as a “protected quotation” under Regulations NMS. This issue has led various commenters to file extensive letters⁹ and IEX to respond to these letters,¹⁰ and further motivated the Commission to clarify the meaning of the term “immediate” in its Notice of Proposed Commission Interpretation Regarding Automated Quotations Under Regulation NMS (“Preliminary Interpretation”).¹¹

⁵ 17 C.F.R. 242.600(b)(57) [emphasis added].
⁶ 17 C.F.R. 242.600(b)(4).
⁷ 17 C.F.R. 242.600(b)(3) [emphasis added].
⁸ Notice of Proposed Commission Interpretation Regarding Automated Quotations Under Regulation NMS (“Preliminary Interpretation”), 81 Fed. Reg. 15,660, 15,661 (March 24, 2016) [internal quotation marks omitted].
⁹ See, e.g., Letter from Mary Ann Burns, Chief Operating Officer, FIA Principal Traders Group, dated November 6, 2015 (“FIA First Letter”); Letter from Elizabeth K. King, General Counsel & Secretary, NYSE Group, dated November 12, 2015 (“NYSE First Letter”); Letter from John Nagel, Esq., Managing Director, Citadel LLC, dated November 6, 2015 (“Citadel First Letter”).
¹¹ Preliminary Interpretation, supra note 8.
In this comment letter, we argue that IEX's quotation is sufficiently “immediate” to merit Rule 611’s trade-through protection, despite the 350-microsecond latency. We base this argument on the interpretation of the term “immediate” under Rule 600(b)(3), primarily relying on the following sources: (1) the Adopting Release to Regulation NMS; (2) the Preliminary Interpretation; and (3) the original meaning of “immediate.”

1. Adopting Release to Regulation NMS (“Adopting Release”)

IEX has already relied on the Adopting Release to interpret “immediate” in favor of its application in its three rounds of comment letters. This comment letter elaborates on IEX's submissions and proposes additional grounds found in the Adopting Release for approving the IEX Application.

First, the language throughout the Adopting Release suggests that the Commission, through the “immediate” language, intended to ensure fair and efficient access to quotations, rather than mere speed of quoting. For example, in discussing the requirements of automated trading centers, the Commission emphasized that “[f]or a trading center to qualify as entitled to display any protected quotations, the public in general must have fair and efficient access to the trading center's quotations.” Similarly, in assessing the need for the Order Protection Rule, the Commission wrote to have “focused primarily on whether effective intermarket protection against trade-throughs will materially contribute to a fairer and more efficient market for investors.” The Commission also pointed out that fair and efficient access to quotations constitutes one of the primary benefits of the Order Protection Rule: “Many of the limit orders that are bypassed are small orders that often will have been submitted by retail investors . . . Retail investors will participate directly in the U.S. equity markets . . . only to the extent that they perceive that their orders will be treated fairly and efficiently.”

IEX claims, and this comment letter agrees, that IEX's registration precisely promotes fair and efficient access to quotations, thereby qualifying as an automated trading center:

IEX, partly through the POP [point-of-presence], uniquely promotes fair access to quotations by the general public by limiting unfair advantages of latency arbitrage, and it promotes efficient access by allowing access within a time frame that is commensurate with that offered by other exchanges. Moreover, the POP provides fair and

---

13 IEX First Response; IEX Second Response; IEX Third Response.
14 Adopting Release, supra not 12, at 37,520.
15 Id. at 37,506.
16 Id. at 37,511.
consistent access to its quotations in that all participants are provide access through equivalent means.\textsuperscript{17}

Second, interpreting the term “immediate” in favor of the IEX Application is consistent with the two overarching aims of Regulation NMS. The first objective is to “contribute to efficient market” by balancing the “competition among individual markets and competition among individual orders.”\textsuperscript{18} According to the Adopting Release, one kind of competition should not take precedence over the other, and vice versa. Instead, Regulation NMS should “maintain an appropriate balance”\textsuperscript{19} between the two kinds of competition. To reject the IEX Application because it does not always give an advantage to the fastest traders would “unduly tilt the balance in favor of competition among orders”\textsuperscript{20} and run against the purpose of Regulation NMS.

The second goal of Regulation NMS—namely, to “serv[e] the interests of long-term investors and listed companies”\textsuperscript{21}—also points in the direction of interpreting “immediate” in favor of IEX. Regarding this second objective, the Adopting Release writes:

The Reproposing Release touched on this issue in the specific context of assessing the effect of the Order Protection Rule on the interests of professional traders in conducting extremely short-term trading strategies that can depend on millisecond differences in order response time from markets. Noting that any protection against trade-throughs could interfere to some extent with such short-term trading strategies, the release framed the Commission’s policy choice as follows: “Should the overall efficiency of the NMS defer to the needs of professional traders, many of whom rarely intend to hold a position overnight? Or should the NMS serve the needs of longer-term investors, both large and small, that will benefit substantially from intermarket price protection?” The Reproposing Release emphasized that the NMS must meet the needs of longer-term investors, noting that any other outcome would be contrary to the Exchange Act and its objectives of promoting fair and efficient markets that serve the public interest.\textsuperscript{22}

The Adopting Release also clarified that the Commission’s clear responsibility is “to uphold the interests of long-term investors” when “the interests

\textsuperscript{17} IEX First Response at 7.
\textsuperscript{18} Adopting Release, \textit{supra} not 12, at 37,498.
\textsuperscript{19} \textit{Id.} at 37,499.
\textsuperscript{20} IEX First Response at 7.
\textsuperscript{21} Adopting Release, \textit{supra} not 12, at Section I.B.2.
\textsuperscript{22} \textit{Id.} at 37,499-37,500. This same paragraph has been cited by the IEX Third Response at 3.
of long-term investors and short-term traders conflict in this context."\textsuperscript{23} Along the same lines, the Adopting Release noted that "the Commission has focused on the interests of these millions of American who depend on the performance on their equity investments for such vital needs as retirement security and their children’s college education."\textsuperscript{24}

IEX is precisely an attempt, by instituting delays in quotations, to favor the interests of long-term investors over those of high-speed traders. To deny approval of the IEX Application would directly contradict the express language of not only the Adopting Release but also the Reproposing Release. Thus, the 350-microsecond latency should not render IEX quotations any less immediate, in keeping with the overall objective of Regulation NMS.

Third, the Commission’s interpretation of a “material delay” in the Adopting Release suggests that the 350-microsecond latency would not disqualify IEX’s quotations from the status of protected quotations. In defining the scope of "trading center of protected quotations"\textsuperscript{25} in Rule 611(a), the Commission had been concerned that “trading centers with well-functioning systems should not be unnecessarily slowed down waiting for responses from a trading center that is experiencing a systems problem.”\textsuperscript{26} Accordingly, it provided an exception in Rule 611(b)(1) for circumstances in which “[t]he transaction that constituted the trade-through was effected when the trading center displaying the protected quotation that was traded through was experiencing a failure, material delay, or malfunction of its systems or equipment.”\textsuperscript{27}

The Adopting Release provides an interpretation of the term “material delay” as used in Rule 611(b)(1). While refusing to specify “a specific time standard that may become obsolete as systems improve over time,” the Adopting Release stated that “repeatedly failing to respond within one second after receipt of an order would constitute a material delay.”\textsuperscript{28} Thus, since IEX’s 350-microsecond latency represents only a tiny fraction of one second, it does not subject IEX to the exception under Rule 611. Concededly, the Commission’s belief, expressed in the Adopting Release, was based on the industry conditions at the time of the issuance of the Adopting Release, and the conditions may have changed significantly since then. At the same time, however, there is no evidence, express or implied in the Adopting Release, which suggests the standard of “material delay” would fall at 350 microseconds today.

\textsuperscript{23} Id. at 37,500.
\textsuperscript{24} Id. at 37,501.
\textsuperscript{25} 17 C.F.R. 242.611(a).
\textsuperscript{26} Adopting Release, supra not 12, at 37,519.
\textsuperscript{27} 17 C.F.R. 242.611(b)(1).
\textsuperscript{28} Adopting Release, supra not 12, at 37,519.
Fourth, reading the Adopting Release in its entirety rebuts the selective reading of it by IEX’s critics. As IEX has keenly pointed out, its critics have focused on “an isolated phrase from the Adopting Release” to argue against IEX’s 350-microsecond latency as interfering with the “immediate” requirement:

[A] quotation will not qualify as “automated” if any human intervention after the time an order is receive as allowed to determine the action taken with respect to the quotation. The term “immediate” precludes any coding of automated quotation systems or other type of intentional device that would delay the action taken with respect to a quotation.30

Seizing on the phrase “intentional device,” critics have argued that IEX’s Point-of-Presence “qualifies as an intentional device that delays action and, hence precludes such quotation from being considered an automated quotation under Regulation NMS.” However, consideration of the quoted paragraph in the context of the entire Adopting Release rejects the critics’ argument.

The phrase “intentional device” arose in the context of distinguishing automated quotations from manual ones. The Adopting Release has recognized that, at the time the Release was issued, the U.S. equity markets were characterized by “extremely vigorous competition among a variety of different types of markets.” A type of these markets was “[t]raditional exchanges with active trading floors, which . . . [were] evolving to expand the range of choices that they offer investors for both automated and manual trading.” Similarly, in discussing the Order Protection Rule, the Adopting Release described the announcement at the NMS Hearing by the representatives of two floor-based exchanges that they intend to “establish ‘hybrid’ trading facilities that would offer automatic execution of orders seeking to interact with their displayed quotations, while at the same time maintaining a traditional floor.” Against this background, the Commission, according to the Adopting Release, adopted “an approach that excludes manual quotations from trade-through protection.” It is this approach of the Commission that the phrase “intentional device” attempted to convey, contrary to the critics’ argument. In fact, immediately

29 IEX Third Response at 1.
30 Adopting Release, supra not 12, at 37,534.
32 Adopting Release, supra not 12, at 37,499 [emphasis added].
33 Id. at 37,518.
34 Id. at 37,518.
35 See id. at 37,520 (“The Commission therefore is adopting the definition of automated trading center as reproposed. The adopted approach offers flexibility for a hybrid market to display both automated and manual quotations, but only when such a market meets basic standards that promote fair and efficient access by the public to the market’s automated quotations. This approach is designed to
preceding the phrase “intentional device” is a sentence that describes the term “automated” as precluding any human intervention, in line with the overarching approaching of the Commission.

2. Notice of Proposed Commission Interpretation Regarding Automated Quotations Under Regulation NMS (“Preliminary Interpretation”)

The Commission preliminarily acknowledged that “IEX’s proposed POP/coil structure raises questions about prior Commission statements with respect to the definition of an ‘automated quotation’ under Regulation NMS.” Thus, on March 24, 2016, it proposed and requested comment on an updated interpretation of “automated quotation” in order to accommodate the “market and technological developments since the adoption of Regulation NMS in 2005” and “to permit more flexibility for trading centers with respect to automated quotations to allow them to develop innovative business models that do not undermine the goals of Rule 611 of Regulation NMS.”

In this Preliminary Interpretation, the Commission wrote that “in the current market, delays of less than a millisecond in quotation response times may be at a de minimis level that would not impair a market participant’s ability to access a quote, consistent with the goals of Rule 611.” IEX’s 350-microsecond delay would equal only 350/1,000 of one millisecond, falling well below the standard of de minimis level set by the Commission. The Commission has also referred to this 350-microsecond delay as “very small response time delays” that “could encourage innovative ways to address market structure issues.”

Then, the Commission proposed to interpret “immediate” to “include response time delays at trading centers that are de minimis, whether intentional or not,” for the purpose of determining whether a trading center maintains an “automated quotation” under Rule 611. The proposed interpretation by the Commission is unqualified. In contrast, the addition of “whether intentional or not” strongly suggests that IEX critics’ reliance on the phrase “intentional device” of the Adopting Release is misguided. The only potential qualification to the propose interpretation was made in footnote 80 with respect to exchanges “that proposed to provide any member or user (including the exchange’s inbound or outbound routing functionality, or the exchange’s affiliates) with exclusive privileged faster access to its facilities over any other member or user.” IEX proposes precisely the opposite

allow markets to offer a variety of trading choices to investors, but without requiring other markets and market participants to route orders to a hybrid market with quotations that are not truly accessible.”).

36 Preliminary Interpretation, supra note 8, at 15,661.
37 Id. at 15,661.
38 Id. at 15,665 [emphasis added].
39 Id. at 15,665.
40 Id. at 15,665, fn. 80.
of footnote 80: it proposes to provide all members equal access to its facilities by instituting the 350-microsecond delay.

For at least several reasons, it is important for the Commission to rely on the Preliminary Interpretation in rendering its decision on the IEX approval. First, the Preliminary Interpretation is an official document published by the Commission itself, discussing one of the primary issues surrounding the IEX approval. In the absence of major market or technological developments, it would be hard for the Commission to revise its earlier interpretation.

Second, the Preliminary Interpretation was also published at a critical time. It came out as recent as March 24, 2016, the same day on which the Commission extended its decision on the IEX approval. If the Commission releases its decision on the IEX Application on June 18, 2016, as promised, the Preliminary Interpretation would be one of the most relevant, up-to-date sources to refer to.

Third, the Preliminary Interpretation gives the very interpretation that had been requested by many commenters of the IEX Application (how “to interpret ‘immediate’ when determining whether a trading center maintains an ‘automated quotation’ for purposes of Rule 611”), which enhances the authoritative weight of this document. One such commenter is BATS. On the one hand, BATS has commented that IEX’s proposed POP/coil structure “qualifies as an intentional device that delays action with respect to a quotation and, hence, precludes such quotation from being considered an automated quotation under Regulation NMS.”

At the same time, however, it acknowledged that its interpretation was based on the Commission’s view from 10 years ago. Accordingly, it urged the Commission to (1) reconsider “what it means to be an automated quotation for registered exchanges under Regulation NMS” and (2) “[t]o the extent that the Commission believes there should be some tolerance in the Exchange Act for deminimus intentional delays, ... articulate with specificity the full scope of that tolerance.” Indeed, the Preliminary Interpretation was precisely a response to these requests.

3. The Original Meaning of “Immediate”

The original meaning of the term “immediate” leads to the conclusion that IEX’s quotation is sufficiently immediate to fall under Rule 611’s trade-through protection. According to the Black’s Law Dictionary, the word “immediate” means “instant” or “occurring without delay.” In most circumstances, an immediate-or-cancel (“IOC”) order that is executed within hundreds of milliseconds, regardless of whether or not it is subject to a 350-microsecond latency, would be considered “instant” and thus “immediate.”

41 BATS First Letter at 3.
42 Id. at 3.
43 Id. at 4.
What makes this characterization seem more problematic in the context of the IEX Application, however, is that the degree of immediacy, or instantaneity, is relative.\textsuperscript{45} In the world of ultra-high-frequency trading, a 350-microsecond latency might arguably be considered as a delay in the execution of an order. Thus, it is critical to understand the context in which the term “immediate” was originally used and to determine whether IEX’s POP/coil structure causes a delay as contemplated under Regulation NMS. We argue that the original meaning of “immediate” should lead the Commission to decide in favor of IEX.

The term “immediate,” together with the term “automatic,” constitutes one of the requirements of an “automated quotation.” In turn, an automated quotation stands in contrast with a “manual quotation,” which is defined by exclusion as “an quotation other than an automated quotation.”\textsuperscript{46} At the time of the adoption of Regulation NMS, “[t]he difference in speed between automated and manual markets often [was] the difference between a 1-second response and a 15-second response.”\textsuperscript{47} This can also be seen in Figure 1, which is reproduced from a study by Professor Emiliano S. Pagnotta.\textsuperscript{48} In this sense, Regulation NMS does not contemplate that an automated quotation has to be as “immediate” or “instantaneous” as possible, much less “immediate” or “instantaneous” in the order of microseconds. Rather, a 1-second response was deemed to be an “immediate” execution of an order at the time of promulgation of Regulation NMS, suggesting that the “immediacy” requirement of an automated quotation has to be understood in relation to the speed of quotations in manual markets.

\textsuperscript{45} Id.; see also McLure v. Colclough, 17 Ala. 89, 100 (“Immediately is of relative signification, and is never employed to designate an exact portion of time.”); Howell v. Gaddis, 31 N.J. Law 313 (“‘Immediately’ does not, in legal proceedings, necessarily import the exclusion of any interval of time. It is a word of no very definite signification, and is much in subjection to its grammatical connections.”); Reg. v. Justices of Berkshire, 4 Q.B. Div. 471 (“It is impossible to lay down any hard and fast rule as to what is the meaning of the word ‘immediately’ in all cases. The words ‘forthwith’ and ‘immediately’ have the same meaning. They are stronger than the expression ‘within a reasonable time.’ and imply prompt, vigorous action, without any delay, and whether there has been such action is a question of fact, having regard to the circumstances of the particular case.”).

\textsuperscript{46} 17 C.F.R. 242.600(b)(37).

\textsuperscript{47} Adopting Release, supra note 12, at 37,500, fn. 21.

\textsuperscript{48} Letter from Emiliano S. Pagnotta to the Equity Market Structure Advisory Committee, “Comment on Reg NMS Rule 611 (Ref. 265-29),” dated April 2015.
Furthermore, the “larger plan [of Regulation NMS] was to encourage automated markets and prevent exchanges from favoring their own manual markets.”\textsuperscript{49} Thus, by adopting Regulation NMS, the Commission “protected an exchange’s lit, automated quotes and banned any programmed tricks or devices an exchange might use to give human traders a chance to intervene or any kind of an edge over automated quotes.”\textsuperscript{50} In this sense, the “immediacy” requirement of an automated quotation should be understood against the backdrop of manual quotations in which human intervention—or even manipulation—is a strong possibility and a serious threat to a fair and efficient market.

This analysis points toward alternative meanings of the term “immediate.” According to the Black’s Law Dictionary, the term “immediate” also means “not separated by other persons or things” and “having a direct impact; without an intervening agency.”\textsuperscript{51} In other words, an “immediate” quotation is one that does not involve human intervention.

Even under this alternative meaning, the “immediacy” requirement in Regulation NMS would not mean that the quotation has to be as fast as possible. Rather, an automated quotation should not be subject to a “deliberate delay (\textit{i.e.}, a time period in which a response is not sent or a quotation is not updated for no

\begin{figure}
\centering
\includegraphics[width=\textwidth]{figure1.png}
\caption{Average small order execution speed for the NYSE, executed at the top of the book (seconds).}
\end{figure}

\textsuperscript{50} Id. at 2.
\textsuperscript{51} Black’s Law Dictionary (10th ed. 2014).
reasonable purpose).” Specifically, once an incoming order is marked as IOC, an automated quotation must be “immediate” and “automatic” in executing an IOC order up to its full size, canceling any unexecuted portion of an IOC order, transmitting a response to the sender of an IOC order indicating the action taken with respect to the order, and displaying information that updates the displayed quotation.

To be sure, to give effect to the word “immediately” in Rule 600(b)(3), it cannot be merely synonymous with the word “automatically.” The requirement that a quotation not be subject to a “deliberate delay,” as defined by the Commission, is sufficiently distinct from the requirement that a quotation be “automatic.” Thus, the two words are not merely synonymous. This interpretation is consistent with the position that the Commission took in the Adopting Release, which stated that “[t]he term ‘immediate’ precludes any coding of automated systems or other type of intentional device that would delay the action taken with respect to a quotation.” On the other hand, “[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.”

In this light, IEX’s quotations qualify as “automated quotations” under Rule 600(b)(3). First, in accordance with the original meaning of the term “immediate,” IEX’s quotations are “instant,” and they “occur without delay” relative to manual quotations. Second, IEX’s quotations do not involve human intervention, nor are they subject to “deliberate delays” as defined by the Commission. This is because IEX’s quotations do not experience “a time period in which a response is not sent or a quotation is not updated for no reasonable purpose.” However, even if the Commission were to decide that IEX’s quotations are delayed, there is a reasonable purpose to its POP/coil structure, namely, to ensure fair and efficient access to quotations in order to serve the interests of long-term investors.

In sum, the Commission should interpret the term “immediate” in accordance with the Adopting Release, Preliminary Interpretation, and its original meaning. All three sources point to the same conclusion that IEX’s quotations qualify as “automated quotations” under Regulation NMS. Therefore, the Commission should grant approval to the IEX Application.

---

57 Adopting Release, supra note 12, at 37,534.
58 Id. at 37,519.
Sincerely,

Michael Chung\(^{59}\)
Jayoung Jeon\(^{60}\)

\(^{59}\) Yale Law School student, Class of 2017. This comment does not purport to express the views of Yale Law School, if any.

\(^{60}\) Yale Law School student, Class of 2016. This comment does not purport to express the views of Yale Law School, if any.