[XTX] MARKETS

October 18, 2019

Via Electronic Mail rule-comments@sec.gov

Vanessa Countryman
Secretary
Securities and Exchange Commission
100 F Street NE Washington, DC 20549

Re: SR-CboeEDGA-2019-012

Dear Ms. Countryman,

XTX Markets LLC ("XTX") appreciates the opportunity to respond to the questions asked by the Securities and Exchange Commission ("SEC" or "Commission") in its recent Order Instituting Proceedings to Determine Whether to Approve or Disapprove a Proposed Rule Change to Introduce a Liquidity Provider Protection Delay Mechanism on EDGA.[1] XTX has previously submitted two comment letters in support of the above-referenced proposal and incorporates those comments both explicitly and by reference in this letter.[2] In the Order, the Commission has requested comment on 11 specific questions. XTX addresses each in turn below.

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1 Exchange Act Release No. 87096 (September 24, 2019), (https://www.sec.gov/rules/sro/cboeedga/2019/34-87096.pdf), (the "Order").

2 Letter from Eric Swanson, CEO, XTX Markets LLC (Americas) to Vanessa Countryman, Secretary, SEC (July 17, 2019), (https://www.sec.gov/comments/sr-cboeedga-2019-012/srcboeedga2019012-5815378-187468.pdf), ("first comment letter"), *and* Letter from Eric Swanson, CEO, XTX Markets LLC (Americas) to Vanessa Countryman, Secretary, SEC (July 31, 2019), (https://www.sec.gov/comments/sr-cboeedga-2019-012/srcboeedga2019012-5898688-188828.pdf), ("second comment letter").

Q1. Do commenters agree with the Exchange's assertion that the proposal would reduce cross-market latency arbitrage and improve market quality by enabling liquidity providers to maintain tighter spreads for longer durations and with greater size? Why or why not? How should enhancements to market quality be measured?

As we noted in both our first and second comment letters, we agree with the Exchange's assertion that the proposal will reduce cross-market latency arbitrage and improve market quality by enabling liquidity providers to maintain quotes at tighter spreads and with greater size. Liquidity providers price to the average toxicity of the flow they interact with on a venue. The most toxic of that flow comes in the form of being systemically outpaced by high frequency traders engaging in predatory latency arbitrage, trading against a liquidity provider's quote when it is just a mere few milliseconds stale. Losses incurred on these trades must be priced into the spread the liquidity provider quotes to all market participants – the liquidity provider has no option to show one price for high frequency predatory latency arbitrage strategies and another, better price, for all other strategies. As such, end user investors ultimately subsidize these losses from predatory latency arbitrage in the form of wider spreads and less displayed size.

To further emphasize a point we made in our first comment letter, it would be wrong to suggest that the liquidity provider can simply invest the vast sums of money in networking architecture to remain competitive with high frequency latency arbitrage strategies at these timescales. It would be wrong for two reasons. First, if that is the answer then we as an industry will be building a moat around a very small handful of liquidity providers that have the financial wherewithal to engage in this type of expensive arms race, discouraging entry from firms that may have risk absorption appetite and unique pricing and time horizons. Second, even if a liquidity provider invests the vast sums of money in networking architecture and achieves a rate of latency that is equal to the fastest high frequency liquidity taker, because of exchange jitter one could expect that in at least 50% of attempts the high frequency taker engaged in latency arbitrage will successfully trade against the liquidity provider's stale price. In other words, investments in the speed race do not solve the problem EDGA's proposal is seeking to address.

Rather, if we reduce latency arbitrage strategies from the mix of flow on EDGA, we would expect the liquidity providers on EDGA will compete to attract other, less toxic strategies, and they will do this by displaying better prices and larger sizes. They will be able to do this because the overall mix of strategies they are interacting with will be considerably less toxic than it is today.

With respect to measuring enhancements in market quality, we believe one could analyze EDGA's quoted and effective spreads, as well as average displayed size, pre and post implementation of the proposed liquidity provider protection. In addition, one could measure the reduction in adverse selection on executed transactions as measured by mark-outs.

Q2. According to several commenters, EDGA liquidity would be "illusory" because the Exchange's liquidity providers could update their quotations while incoming orders are delayed. Do commenters believe that the proposed rule change would lead to quote fading? Why or why not? Do commenters believe that the proposed rule change would impact fill rates? Would the "illusory" liquidity be a significant portion of the Exchange's overall liquidity?

As we stated in our first and second comment letters, there will be no illusion of liquidity for end users trading on EDGA. The liquidity end users see on EDGA is the liquidity they will continue to get. EDGA's liquidity provider protection specifically targets latency arbitrage, which no end user engages in when performing natural trading or hedging activity. While price discovery on EDGA would be slowed by up to 4 milliseconds, this would have no material effect on end users of the market who tend to have long-run economic exposures and whose trading or hedging activity is not motivated by market developments at millisecond timescales. Accordingly, the liquidity on EDGA will not be "illusory".

XTX acknowledges that agency brokers routing institutional investor orders may need to modify the way they access EDGA. As we stated in our second comment letter, sending multiple orders to sweep liquidity across various exchanges may not be an effective way to access EDGA's liquidity. Instead, either routing first to EDGA, accounting for the 4-millisecond delay, and then routing to other markets, or only routing to EDGA when it can satisfy the full size of what would otherwise be a market sweep order, are likely to be the most effective means of accessing EDGA's liquidity. XTX would expect zero reduction in fill rates for end users executing through brokers who update their routing logic accordingly.

Q3. Some commenters assert that the proposal is not unfairly discriminatory under the Exchange Act because the proposal addresses a particular behavior as opposed to specific class or type of market participants. Is this assertion accurate? Why or why not?

XTX believes there are several reasons why the proposal is not unfairly discriminatory. To reiterate from our first comment letter, XTX believes the proposal is not unfairly discriminatory because:

- The proposal reflects a targeted response to a known problem in today's market, and its implementation will reduce costs for most market participants, enhance market quality in the form of better displayed prices and larger size, and lower the barrier to entry for new market making firms;
- The proposed delay mechanism protects all orders that add liquidity and not just orders from a subset of market participants;
- The proposed delay mechanism is not targeted at a type of market participant; rather, it is targeted at a behavior – latency arbitrage. Certain participants may conduct more or less latency arbitrage, but these participants are themselves diverse and cannot be defined or grouped by one aspect of their overall trading activity; indeed, they do not

even appear to self-define themselves as latency arbitrageurs and will typically adapt their businesses and activities to accommodate the specific market structure of each product and market; and further,

- EDGA would operate as an unprotected exchange, thereby eliminating the requirement for market participants to route orders there or otherwise honor its top of book quotes.

Q4. Will the proposal increase the risk of adverse selection for liquidity takers and market participants that are unable to react to market signals in order to adjust their quotes within four milliseconds?

One concern raised thus far through the comment process is that only the most sophisticated traders will be able to use the EDGA liquidity provider protection to avoid latency arbitrage, leaving the orders of institutional investors to absorb the negative impact of latency arbitrage strategies. We addressed this concern in our second comment letter and continue to believe it's meritless. XTX understands that agency brokers' passive algorithms can process cross asset and cross market signals and reprice or cancel agency orders within EDGA's proposed 4-millisecond protection period. EDGA's proposal is not, as some commenters have suggested, a tool designed to protect a small subset of sophisticated liquidity providers. Instead, EDGA's proposal will protect the passive orders of any investor using commercially available order placement algorithms. Further, there is no obligation for anyone to place an order on EDGA if they are concerned that their algorithm provider cannot benefit from its protections.

Q5. Is an intentional delay of four milliseconds necessary to minimize the effectiveness of latency arbitrage strategies? Will the delay negate the advantages that trading firms using the latest microwave connections have over liquidity providers using traditional fiber connections? Should the delay be shorter or longer to accomplish this goal? Is four milliseconds an appropriate duration for a delay? Is such delay consistent with the Act? Why or why not?

As demonstrated by EDGA in its proposal, at 4 milliseconds, the delay is long enough to neutralize the advantages that trading firms using the latest microwave connections have over liquidity providers using traditional fiber connections. As we noted in our first comment letter, price discovery in U.S. equities is often driven by price changes in U.S. equity index futures contracts that trade in data centers in Chicago. Existing commodity fiber connections can transmit market data from Chicago to the New Jersey data centers that house the matching engines for the U.S. equities exchanges in approximately 7.75 milliseconds. In contrast, and as cited by EDGA, Quincy Data advertises one-way microwave transmission of market data between Chicago and New York of 4.005 milliseconds, and unquestionably proprietary networks exist that transmit market data faster than the rate advertised by Quincy Data. The 4-millisecond delay proposed by EDGA would neutralize the difference between commodity fiber connections and microwave networks (7.75 milliseconds - 4.005 milliseconds = 3.745 milliseconds). As such, XTX believes the length of the proposed liquidity provider protection is appropriate to accomplish its goal.

In addition, as we note elsewhere in this response and in our first and second comment letters, we believe this proposal addresses a known problem in our markets, and in doing so promotes just and equitable principles of trade. The proposal is also targeted at a type of predatory trading behavior, not a type of market participant and, as such, is not unfairly discriminatory. For these reasons, XTX believes EDGA's proposal complies with the Exchange Act.

Q6. Is the proposal tailored in a manner such that its potential benefits outweigh the potential or likelihood of harm or unintended consequences to the national market system?

XTX believes the proposal is narrowly tailored to address a known problem in today's markets, and examples of the magnitude and effects of that problem continue to emerge on a regular basis.[3] The market will benefit under the EDGA proposal by virtue of liquidity providers being able to display tighter spreads and larger size. These quotes will be accessible to investors not engaging in latency arbitrage. We think these benefits outweigh any potential, purely speculative, harm or unintended consequences. It's worth mentioning that EDGA would not be the first financial market to adopt an anti-latency arbitrage mechanism (see non-exclusive list in our first comment letter). In fact, EDGA would not even be the first equity market with a Regulation NMS-like order protection rule to do so. TSX Alpha launched a non-protected, randomized 1-3 millisecond delay on liquidity taking orders in 2015, and the Canadian market quickly adapted to account for it.

Q7. Should the Exchange's unprotected, manual quote be allowed to lock or cross manual quotations disseminated by another manual market? Why or why not?

XTX supports allowing one manual quote to lock or cross another manual quote. In fact, XTX supports repealing the current prohibition on locking or crossing protected quotes. XTX addressed this issue in detail in a market structure comment letter it previously filed with the Commission.[4] In short, we believe that the current ban on the display of locked and crossed markets has led to the development of the most complex order handling logic at the exchanges, variously referred to as "price sliding" or "price to comply" logic pursuant to which an exchange will accept an order that would lock or cross the market, rank it for execution at the locking price and then display it at one tick less aggressive than the locking price until it can be displayed at

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3 *See e.g.* various examples cited in XTX's first comment letter, *and Why are the NYSE and private companies fighting over two-millionths of a second?*, https://www.marketplace.org/2019/10/07/fight-nyse-new-antennas/, (October 7, 2019).

4 Letter from Dr. Alex Gerko and Dr. Zar Amrolia, co-CEOs, XTX Markets Ltd., and Eric Swanson, CEO, XTX Markets LLC (Americas) to Brent Fields, Secretary, SEC (November 26, 2018), (https://www.sec.gov/comments/4-729/4729-4681565-176567.pdf).

its ranked price. This in turn has led to the development of the so-called "Day ISO", which enables trading firms sophisticated enough to consume the fastest and most expensive market data feeds to determine when a new price level opens at an exchange before others and jump the queue of price-slid orders to gain queue priority at the new price level.

In our experience in global markets, a crossed market, if displayed, will be quickly arbitraged away. And as described above, locked markets occur with some frequency today, the fact that the market is locked is simply hidden from view by price sliding logic. Allowing these locked markets to be displayed would enhance market efficiency and price discovery, and reduce complexity by eliminating the need for price sliding logic at the exchanges.

Q8. *What impact, if any, would the dissemination of an unprotected, manual quote have on the national market system? Should EDGA's unprotected, manual quote be disseminated by the SIP? If so, should the SIP disseminate a modifier to indicate that EDGA's quote is manual? Should the EDGA quote be used to calculate the NBBO? Should the EDGA quote be used to calculate midpoint values?*

XTX believes EDGA's unprotected quote should be disseminated by the SIP with an appropriate designation that it is a manual quote under Regulation NMS. This would enable the industry, if it so chooses, to calculate both a protected bbo and an unprotected bbo, which could be used for trade through compliance, locked and crossed markets compliance, and best execution analysis. With respect to whether EDGA, or any future manual quote should be used to calculate midpoint values, XTX does not have a strong view on this point. We understand that the convention in Canada, which has several protected and unprotected markets, is to exclude unprotected venues from this calculation. That approach could work here as well. Ultimately, it strikes us that whether a particular execution venue includes or excludes unprotected quotes from this calculation should be up to each venue to determine and clearly disclose to the industry. We recognize this latter approach creates some complexity, however, thus would expect the industry would coalesce around the former approach at least until an unprotected venue clearly establishes its value proposition to the market.

Q9. How will the dissemination of EDGA's unprotected, manual quote impact a brokerdealer's obligation to obtain best execution?

As stated in our second comment letter, the Commission has previously addressed this issue in the context of adopting Regulation NMS. In the adopting release, the Commission stated:

> when the market for a stock is dominated by trading centers that display automated quotations, and a trading center that is not a dominant market for the stock displays manual quotations, a broker-dealer reasonably could determine, as part of its regular and rigorous review of execution quality, to bypass such a market with manual quotations in the particular stock if its prior experience demonstrated that attempting to access the market would not be in its customers' best interest. In making its assessment the broker-dealer would be entitled to

consider both the likelihood of receiving an execution at displayed prices and the potential cost to its customers of failed attempts.

XTX does not believe anything about the EDGA proposal presents the industry with its first opportunity to apply the Commission's best execution guidance with respect to unprotected quotes. Today there are multiple ATS venues for trading securities that are unprotected. While these venues do not display quotes, can it be the case that agency brokers ignore them in favor of protected quotes only or do they route orders to them and conduct a rigorous best execution analysis of the results? The roughly 14% aggregate market share of these dark venues suggests the latter.

That leaves the real difference being the fact that EDGA would be displaying an unprotected quote. But that's not even new, Credit Suisse previously operated a displayed ATS called Light Pool that displayed quotes over a private market data feed. Recently, Intelligent Cross' Aspen ATS launched that similarly displays quotes over a private data feed. To paraphrase the Commission from its Regulation NMS proposing and adopting releases, compliance with the order protection rule is not the same as compliance with best execution obligations. Presumably the industry has already adapted to achieving best execution in an environment that includes both protected and unprotected quotes.

Q10. What would be the impact, if any, on the national market system if other national securities exchanges, with a larger percentage of overall trading volume, adopted a similar proposal? In particular, how would the proposal affect market quality?

XTX believes the EDGA proposal will have an overall benefit to market quality, enabling liquidity providers to compete to narrow spreads and display larger size without the threat of latency arbitrage. We believe the larger the size of the exchange and more exchanges adopting such liquidity provider protections the more compellingly positive the potential benefits to market quality become. Certainly, one would assume it's the case that EDGA is proposing these protections to grow market share. And given that EDGA under the proposal should become the leading venue for price discovery in the marketplace, it is reasonable to expect that it will be successful in that regard. XTX views this as a positive development for the marketplace overall – by diminishing the opportunities for latency arbitrageurs to profit merely off of speed, one would expect that as EDGA market share grows, or other, larger exchanges adopt similar measures, exchanges without such protections could observe knock-on positive effects as such predatory strategies simply become less prevalent across the entire market.

Q11. What are commenters' views on how the proposal would affect trading activity, in general, and liquidity providers, in particular, on other markets? Would the LP2 delay mechanism impose systemic risks and create informational disparities across the national market system? Would the proposal provide EDGA liquidity providers with the option to leverage or free ride price discovery that occurs at other trading venues?

XTX does not believe the EDGA proposal will create systemic risks or create informational disparities across the national market system. To the contrary, as previously stated, XTX believes the proposal will benefit our markets by protecting liquidity providers from latency arbitrage. There will be no information disparities assuming the EDGA quote is published by the SIP. Investors will have access to information about the EDGA quote, and knowledge that the quote is considered manual under Regulation NMS. In practice, the EDGA quote will be accessible as it is today, unless the order seeking to access it is part of a latency arbitrage strategy, which is the point of the proposal. In return for that protection, liquidity providers will be able to compete to display narrower spreads and larger size.

With respect to the concern that the EDGA proposal may discourage liquidity providers from actively participating in price discovery on other exchanges because liquidity providers on EDGA will free-ride on their quotes, XTX believes this concern is simply meritless. First, it would be irrational for EDGA liquidity providers to free-ride off price discovery occuring on away venues. To realize the economic benefit of EDGA's liquidity provider protection, liquidity providers will need to attract liquidity removers and they will need to quote more competitively with tighter spreads and larger size to do so. Second, this is at best merely a commercial concern between the exchanges that presents no regulatory issues for the Commission's consideration. If a liquidity provider is concerned about free-riding, it can set the NBBO on EDGA and it will be rewarded with queue priority in the same way as occurs today. There would be no possibility for other EDGA participants to 'free ride' on quotes because their orders would be placed behind those of the original liquidity provider. In other words, the concern simply highlights that more price discovery will shift to EDGA upon implementation of its proposal. By neutralizing latency arbitrage, EDGA will provide a marketplace where competition among liquidity providers, both on price and size, will thrive. Ultimately, this is a good thing for investors.

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Thank you for the opportunity for XTX to respond to the questions asked by the Commission in the Order. XTX continues to support EDGA's proposal, believing it brings forward an important and innovative protection for liquidity providers that will provide an overall benefit to market quality. XTX believes it is important to emphasize again that, as proposed, EDGA's quote would be unprotected, which we believe dramatically reduces any perceived burden that some in the industry may believe it poses. EDGA as a marketplace will stand or fall on its own merits, not because the order protection rule prohibits anyone from trading through its quote. If it fails to deliver the value intended, it will not succeed. If it does deliver the value intended, market participants will adopt it and it will succeed solely because it presents a meaningful value proposition to the marketplace. We believe this is exactly the type of exchange innovation the Commission should support. If you have any questions about our views, please don't hesitate to contact me.

Sincerely,

Eric Swanson
CEO, XTX Markets LLC (Americas)

Cc: The Honorable Jay Clayton, Chairman
The Honorable Robert J. Jackson, Jr., Commissioner
The Honorable Hester M. Peirce, Commissioner
The Honorable Elad L. Roisman, Commissioner
The Honorable Allison Herron Lee, Commissioner
Brett Redfearn, Director, Division of Trading and Markets
Elizabeth Baird, Deputy Director, Division of Trading and Markets
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