August 22, 2019

Via Electronic Submission

Vanessa Countryman
Secretary
Securities and Exchange Commission
100 F Street, NE
Washington, D.C. 20549-1090

Re: Release No. 34- 86168, File No. SR-CboeEDGA-2019-012

Dear Ms. Countryman:

Cboe EDGA Exchange, Inc. ("EDGA" or the "Exchange") appreciates the opportunity to respond to comments submitted to the Securities and Exchange Commission ("Commission") on the above-reference proposed rule change (the "Proposal").[1] The Proposal would introduce a delay mechanism on EDGA that is designed to protect liquidity providers, and thereby enable those liquidity providers to make better markets in equity securities traded on the Exchange. The Proposal represents an important step in reducing latency arbitrage, and thus adverse selection risks for liquidity providers. In turn, the Exchange believes that this would encourage more competitive liquidity provision, and benefit investors in the form of better quote quality.

The standard price-time market model, and the increase in speed and efficiency of trading over the years since the introduction of Regulation NMS, have aided significantly in the efficient execution of transactions in U.S. equity securities. Still, technological advances have also aided in the development of trading strategies that exploit infinitesimally small speed advantages. Although employed by a limited number of sophisticated firms that have access to the most advanced

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1 See Securities Exchange Act Release No. 86168 (June 20, 2019), 84 FR 30282 (June 26, 2019) (SR-CboeEDGA-2019-012).

technology, such trading strategies act as a tax on liquidity provision, and may ultimately limit the ability of liquidity providers to display their best prices and sizes to the investing public. The Exchange is cognizant of the many improvements that have been made, but at the same time we believe that more can be done to improve market quality, and consequently trading outcomes, for investors. In fact, improving execution quality for investors is what LP^2 is about.

The Proposal would increase competition in the market, provide greater choice to investors, and may encourage improvements in market quality, and contribute to a fair, orderly, and efficient market. In this response letter we provide data and analysis that illustrates the latency arbitrage problem that we are trying to solve, and why we believe the LP^2 is the way to solve it. We also respond to a number of specific concerns raised by commenters, including comments related to the proposed dissemination of a manual quotation, as defined in Rule 600(b)(38) of Regulation NMS, and comments related to the "asymmetric" nature of the proposed delay mechanism. Undoubtedly, some will prefer the status quo, and the Exchange and its affiliates will continue to offer market structures that cater to a wide variety of equities market participants across our four U.S. equities markets. Nevertheless, it is critical that we continue to re-think our market structure and make improvements that benefit investors.[2]

I. *Latency arbitrage reduces liquidity in the U.S. equities market.*

The Proposal is designed to reduce adverse selection risk for liquidity providers, and therefore encourage more aggressive liquidity provision – *i.e.*, to improve market quality for investors. Liquidity providers, who stand ready to buy or sell a security at a published price, face asymmetric risks as the contra-party, the liquidity taker, determines the time of trade. As the

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2 For example, the Exchange's affiliate recently filed to introduce priority for retail orders entered on the Cboe EDGX Exchange, Inc. See Securities Exchange Act Release No. 85482 (April 2, 2019), 84 FR 13729 (April 5, 2019) (SR-CboeEDGA-2019-012).

Commission has said, limit orders, in effect, offer a "free option"[3] for marketable orders that access posted liquidity. With the ability to quickly trade at posted prices, sophisticated liquidity takers can use information about impending price changes to purchase shares before prices are about to go up, or sell shares before prices are about to go down. For instance, if a liquidity taker utilizing an ultra-fast microwave connection observes a price increase in the E-mini S&P 500 futures contract traded on the Chicago Mercantile Exchange it may race to trade with a liquidity provider's offer posted at a now stale price in the related SPDR S&P 500 ETF ("SPY"). If it removes liquidity prior to the liquidity provider successfully repricing its resting orders, this liquidity taker would have locked in an effectively risk free profit at the expense of the provider of liquidity.

The chart below illustrates markouts for liquidity providers on EDGA in SPY during the month of July 2019 based on whether or not the transaction involved a "missed cancel" – *i.e.*, where the liquidity provider attempted and failed to cancel or replace their quotation within four milliseconds after an execution.[4] These statistics illustrate the difference between the execution price and the midpoint price at the time of the trade and in the milliseconds following an execution.[5] The yellow line shows markouts in situations involving a missed cancel. As illustrated, the midpoint price moves dramatically in the milliseconds immediately following transactions in this category, which often involve a handful of faster firms that are routinely able to predict and profit from prices that are about to change. That is, prices immediately move against the resting order in the milliseconds following the trade, indicating that the trade was likely to have been executed at a stale price. By contrast, the purple line represents the same markouts for all other

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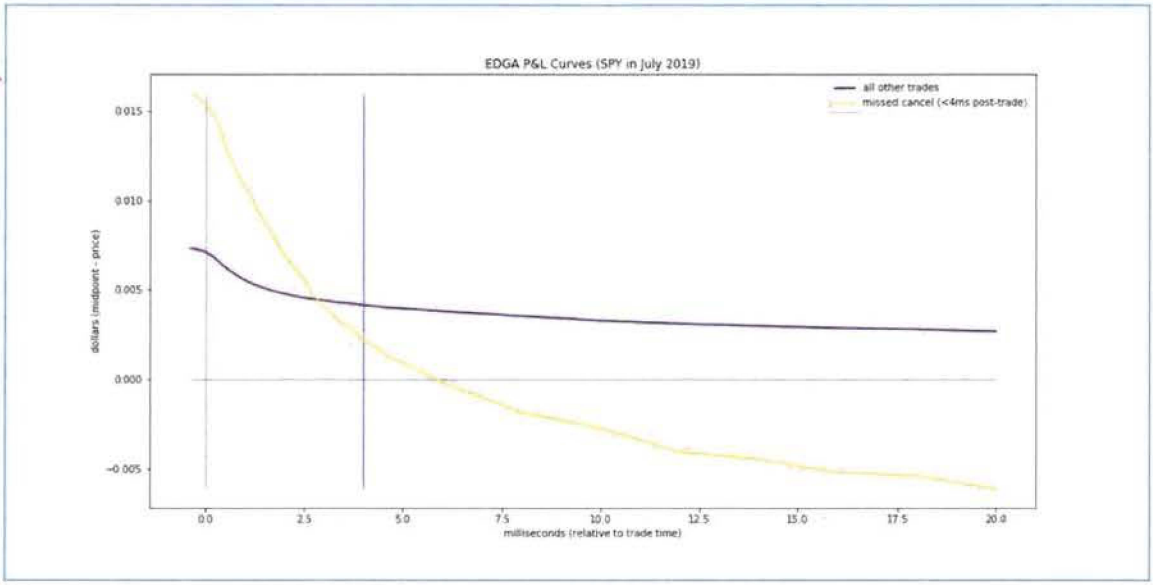
3 See Securities Exchange Act Release No. 51808 (June 9, 2005), 70 FR 37495, 37526 (June 29, 2005) (S7-10-04) ("Reg. NMS Adopting Release").

4 Similar charts for a number of other equity securities are included in the Appendix.

5 For a given time t_1 relative to a trade that occurred at time t_0, the markout for a buyer (seller) is calculated as $m_1 - p\ (p - m_1)$, where m_1 is the midpoint price at time t_1 and p is the execution price at time t_0.

transactions. These markouts, which represent the majority of trading activity conducted on the Exchange, show relatively stable prices following an execution.



Unfortunately, when liquidity providers price their quotations they must account for not only the large number of ordinary takers but also the handful of firms looking to take advantage of posted bids and offers in the milliseconds before they are about to be cancelled. These latency arbitrage strategies, which compete purely on the basis of speed, do not add value to the markets for ordinary investors. In fact, the costs of these types of trades are passed on to all other liquidity takers in the form of decreased market quality. The LP^2 delay mechanism would reduce the effectiveness of latency arbitrage strategies by offering a four millisecond period for liquidity providers to update their posted quotations before trading at a stale price. The Exchange believes that the result is likely to be an increase in market quality for the significant majority of market participants that are not engaged in latency arbitrage.

II. *The LP^2 is reasonably tailored to solve the latency arbitrage issue on EDGA without harming investors that are not engaged in such strategies.*

The LP^2 is an elegant solution to the identified problem as it is designed to thwart latency arbitrage strategies while minimizing any potential negative impact on other investors. Price changes in millisecond increments, on the order of magnitude of a hundredth of a blink of an eye,

are not generally of concern to long-term investors. The statistics in the markout charts for SPY above, and for additional symbols in the Appendix, show that the published quotations accessed by the majority of investors tend to be relatively stable in the 20 milliseconds following an investor removing liquidity posted on the EDGA order book. Since the published quotations are relatively stable immediately following an execution, these investors should continue to be able to access liquidity at similar prices after exiting the LP[2] delay mechanism. Put another way, for an investor that is not actively attempting to exploit millisecond level price changes, the difference between buying or selling at the price at the precise millisecond the order is received is not materially different from buying or selling four milliseconds in the future.

This result also illustrates why certain commenters' concerns about "quote fading" – *i.e.*, the possibility that a published quotation may not be accessible because a liquidity provider cancels its orders before an investor can access the published bid or offer – are unwarranted. Given that prices following an execution are relatively stable for most investors, liquidity is likely to continue to be available for such investors despite the introduction of a short, four millisecond delay. In fact, rather than reduce liquidity available to investors, the reduced adverse selection risks for liquidity providers may facilitate more aggressive quoting and more effective price discovery on EDGA, improving the experience of investors that choose to interact with the Exchange.

Naturally, the result is not the same for liquidity takers that are actively attempting to access liquidity immediately before the market moves – *i.e.*, those attempting to trade at a "stale" price before the liquidity provider has a chance to update its quotation. As shown, midpoint prices change rapidly after these market participants take liquidity, indicating their successful removing of liquidity within milliseconds prior to prices moving in their favor. Of course, this is not accidental. The entire point of these latency arbitrage strategies is to exploit stale prices and trade immediately prior to a positive price movement – *i.e.*, to buy immediately prior to an appreciation in price, and sell immediately prior to a reduction in price. For these firms, liquidity at the "stale"

price is unlikely to persist for the four milliseconds that the order is queued in the LP[2] delay mechanism. That is, the Proposal is likely to make it less profitable to engage in latency arbitrage while not materially affecting the ability of ordinary investors to access liquidity on EDGA. By reducing the ability of firms to conduct these latency arbitrage strategies, the Exchange hopes to foster a market that is better for all investors.

III. *The Proposal is designed to improve markets for all liquidity makers and takers not engaged in latency arbitrage.*[6]

Some commenters contend that the Proposal is unfairly discriminatory because the Exchange would delay marketable orders but not liquidity providing orders. These comments distinguish between the "asymmetric" nature of the proposed LP[2] delay mechanism, and "symmetric" delay mechanisms offered by other U.S. equities exchanges, such as the Investors Exchange LLC ("IEX") and NYSE American LLC ("American"), and claim that the fact that the proposed delay would apply to some orders but not others renders the Proposal unfairly discriminatory. While the Proposal would introduce a delay that functions differently in important respects from existing mechanisms, the differences would actually serve to enhance displayed liquidity and benefit investors. Moreover, these commenters seem to miss the point entirely about how delay mechanisms work.

A truly symmetric delay would do nothing to protect investors' orders. If we analogize these delay mechanisms to a race, giving everyone the same head start does not change the fact that whoever is fastest will always win the race. While true that current delay mechanisms delay all orders *on entry*, orders are treated differently once they are resting on the order book. While incoming orders and member repricing of resting orders are subject to delay, certain non-displayed pegged orders are managed by the exchange operator, and repricing instructions impacting these

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6 See also Proposal, supra note 1, at 30290-91.

orders do not get delayed. Resting pegged orders managed by the exchange are therefore able to move from a stale price before incoming orders can execute against them, and as a result both of these exchanges execute a disproportionate volume in midpoint pegged orders. The LP[2] delay mechanism would offer similar benefits in terms of protecting resting orders, but would do so in a manner that allows liquidity providers to improve displayed prices rather than relying solely on exchange driven algorithms that are designed solely to match prices quoted on other markets.

The Proposal is designed to reduce latency arbitrage observed in the equities markets. Of course, the impact of latency arbitrage is felt most directly by liquidity providers that stand ready to buy or sell securities on a continuous basis throughout the trading day. But, it also impacts market participants that access that liquidity on national securities exchanges. As the Commission has explained, the interests of market participants "who submit marketable orders and those who submit limit orders… are inextricably linked."[7] Indeed, "[t]he quality of execution for marketable orders… depends to a great extent on the quality of markets established by limit orders (i.e., the narrowness of quoted spreads and the available liquidity at various price levels)."[8] That is, the ability for investors to trade with a published quotation and obtain a quality execution depends on the ability for liquidity providers to offer their best prices and sizes to the market. Protecting liquidity providers is important given the service that they provide to the market, and the asymmetric risks that they are subject to as a result of the "free option" effectively provided to liquidity takers.[9] But it is also important because the quotations posted by liquidity providers determine the quality of executions received by investors that submit marketable order flow.

The Proposal is designed to enable liquidity providers to offer better market quality to investors, and therefore would promote the interests of both liquidity makers and liquidity takers.

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7 Reg. NMS Adopting Release, supra note 3, at 37526.

8 Id.

9 See supra note 3 and accompanying text.

The Exchange believes the Proposal is likely to encourage liquidity providers to post better prices, or display greater size, since these market participants would face significantly lower risk of adverse selection, and can therefore price their quotations accordingly. Further, if liquidity providers do not step up and provide the expected market quality benefits in terms of increased depth or more aggressive prices then liquidity takers can and will choose not to route orders to EDGA. This provides a very strong incentive for such firms to actually improve market quality as a liquidity provider's ability to trade is wholly contingent on attracting liquidity taking orders willing to access their quotations. For this reason, comments suggesting that the Proposal would, in effect, allow liquidity providers to free ride on price discovery taking place on other U.S. equities exchanges are also unpersuasive. While "free riding" might at first glance seem like an opportune strategy it would not be a particularly successful one since EDGA would simply end up lower on the intermarket queue for liquidity taking orders. Further, arguments that the Proposal would incentivize free riding on price discovery taking place on other markets rather than improving market quality on EDGA, ignore the fact that liquidity providers on EDGA would still need to compete with each other to set the best price available on the Exchange in order to trade with incoming marketable order flow.

Without order protection for liquidity providing orders posted on the EDGA order book, equities market participants would be able to decide for themselves whether or not the LP^2 mechanism provides sufficient market quality benefits to justify the added delay. Presumably recognizing this fact, a number of commenters also contend that the Commission should provide additional guidance as to whether or not best execution obligations would obligate them to continue to interact with EDGA's manual quotation if execution quality suffers because of the implementation of the proposed delay. That is, they question whether it would truly be optional to interact with EDGA's published quotation. These comments seem to misunderstand broker-dealers' best execution obligations, and ignore clear guidance already issued by the Commission,

as addressed in Section VI of this response letter. The Proposal would offer strong incentives for liquidity providers to improve quote quality, and hence execution quality for investors, and would do so by offering an innovative solution to investors on a purely voluntary basis. This is plainly not unfairly discriminatory. While the Exchange understands that some commenters have expressed concerns, the Exchange respectfully submits that investors should be given the choice to determine for themselves whether this market structure meets their needs.

IV. *The Proposal benefits a wide range of liquidity makers.*[10]

Some commenters also claim that the Proposal would unfairly discriminate, not against the takers of liquidity that would be subject to the LP^2 delay mechanism, but against certain makers of liquidity that, they contend, would not be able to make use of a four millisecond delay. Of course, all liquidity providing orders would be exempted from the LP^2 delay mechanism on an equal basis, but these commenters argue that four milliseconds is, in effect, too short a period for investors to be able to use to reprice their orders. These comments misunderstand the broad applicability of the Proposal, which would actually serve to increase competition among liquidity providers by attracting a wider range of participants that can compete on factors other than speed. To be sure, the Proposal would benefit professional market makers that quote across a wide range of symbols and provide liquidity to a wide range of investor orders. Naturally, market participants that routinely enter two sided quotations, and stand ready to buy or sell to investors, would benefit from the Proposal in relative proportion to the amount of liquidity that they provide. Market makers provide an important service to investors, and reducing their adverse selection risk would help enable them to improve market quality. This is particularly the case for firms that may not be able to compete purely on speed but who are looking to compete on the quality of execution that they provide to investors. Still, the Proposal is not limited to benefitting only these professional market

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10 See also Proposal, supra note 1, at 30290-91.

makers. For example, similar to IEX and American, the Exchange would allow investors seeking midpoint executions to enter midpoint peg orders that could be automatically repriced by the Exchange within the four millisecond window provided by the LP[2] delay mechanism. In addition, a very significant amount of institutional order flow is managed through broker-dealer algorithms that could respond to market information in less than this timeframe. A number of different kinds of market participants would therefore directly benefit from the introduction of the delay mechanism in their role as makers of liquidity, in addition to the benefits they may receive in the form of better market quality as removers of liquidity.

V. *Liquidity Enhancing Speed Bumps in Non-U.S. Markets*

While no other U.S. equities exchange currently operates a speed bump that is designed to improve quote quality by protecting orders entered by liquidity providers, a somewhat similar model was approved for use on TSX Alpha in Canada. Certain commenters cite an academic study that suggested the TSX Alpha changes resulted in an increase in transaction costs and a decrease in market quality in the Canadian equities markets (the "Australian study"). What these commenters fail to mention, is that the results of the Australian study were subsequently contradicted by studies performed by Canadian regulators – *i.e.*, the Investment Industry Regulatory Organization of Canada ("IIROC") joint study with the Bank of Canada, [11] and a review conducted by the Ontario Securities Commission.[12] Contrary to the results put forward by the authors of the Australian study, the joint study conducted by IIROC and the Bank of Canada using a more robust dataset available to the regulators, showed that the TSX Alpha redesign "did not

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11 See Speed Segmentation on Exchanges: Competition for Slow Flow, *available at* https://www.iiroc.ca/Documents/2018/25d5b306-3420-43cc-b260-a1527b82bfc3_en.pdf; IIROC Notice 18-0009, *available at* https://www.iiroc.ca/Documents/2018/18e78548-3f29-40d1-a356-69885029a09b_en.pdf ("IIROC Notice").

12 See OSC Staff Notice 21-712 *available at* https://www.osc.gov.on.ca/documents/en/Securities-Category2/20180202_21-712_sn-alpha-impact.pdf.

adversely affect the quality of Canadian equity markets."[13] The Ontario Securities Commission's own analysis reached a similar conclusion, finding no evidence of negative impact on market quality following the introduction of changes to the TSX Alpha market model. Of course, the Exchange recognizes that there are significant differences between the U.S. and Canadian equities markets, both in terms of regulatory regime and market structure. There are also material differences between the Proposal and the analogous protections implemented on TSX Alpha. For example, the Proposal contemplates a delay of a fixed duration, meaning that broker-dealers could continue to successfully include EDGA in sweeps by programming their smart order routers such that sweep orders arrive at each venue simultaneously. Nevertheless, to the extent that the Canadian perspective is instructive, the analysis done by the Canadian regulators shows the value of offering these sorts of innovations to investors, and sheds significant doubt on the claims to the contrary by commenters. As was the case in Canada, U.S. broker-dealers may have to make changes to their order handling in order to make the best use of the LP^2 delay mechanism but ultimately the Proposal may improve trading outcomes both for liquidity providers and for long-term investors that choose to continue to interact with EDGA's unprotected quotation.

VI. *The Commission has already addressed the impact of manual quotations on a broker-dealers' duty of best execution.* [14]

A few commenters expressed concern with the current state of Commission guidance that would enable broker-dealers to determine whether routing to EDGA is consistent with the duty of best execution that they owe to their customers. Without such guidance, these commenters suggest that it would be impossible to know whether deciding to bypass EDGA would be permissible if the Proposal's intended market quality benefits never come to fruition. While admitting that a broker-dealer could determine that it is permissible to route orders to EDGA if the Exchange is

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13 See IIROC Notice, supra note 11.

14 Id.

successful in improving market quality, these commenters question whether a broker-dealer could truly bypass EDGA's manual quotation in the absence of such market quality improvements. These commenters therefore conclude that additional guidance from the Commission is necessary prior to approving EDGA's dissemination of a manual, unprotected, quotation. Of course, what the commenters fail to mention is that the Commission already issued guidance on exactly this point when it adopted Regulation NMS:

> "As they do today, broker-dealers will continue to be able to assess the level of accessibility and availability of manual quotations in making their best execution determinations. In particular, 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."[15]

Put another way, a broker-dealer is free to bypass a manual quotation, but must assess whether doing so is in its customers' best interest based on the market quality offered by that exchange, as it would do when making routing decisions involving any other market. Since the Commission has already issued the requested guidance, broker-dealers should remain able to determine how best to route their clients' orders. Indeed, firms already have to account for a number of different types of execution venues in making best execution decisions. In today's interconnected market, equity orders are routed to a numerous and diverse set of execution venues. In addition to electronic exchanges that display fully automated quotations, these include hybrid exchanges that offer both automated and floor-based manual trading; alternative trading systems;

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15 Reg. NMS Adopting Release, supra note 3, at 37537 (Emphasis added).

single-dealer platforms; wholesale market makers; and other executing brokers. The majority of these venues are not national securities exchanges, and do not publicly disseminate a protected quotation, or display any quotation at all. Indeed, about 36% of U.S. equities trades are currently executed off-exchange without interacting with a protected quotation.[16]

Broker-dealers that seek liquidity on off-exchange venues may do so for a number of reasons, including the ability to trade at a better price, *i.e.*, price improvement, or increased liquidity. Similar best execution analysis would apply when determining whether to route an order to an unprotected exchange disseminating a manual quotation. As such, if EDGA does not produce the intended market quality benefits, broker-dealers would be free to route their clients' orders to other national securities exchanges, or to off-exchange venues, based on their analysis of the best market for the security under prevailing market conditions. The Proposal would therefore promote competition and choice for investors, without placing any new or novel regulatory obligations on broker-dealers that would necessitate further guidance from the Commission.

VII. *EDGA's proposed manual quotation should be included in the NBBO.*

Commenters also suggested that EDGA's quotation should be excluded from the NBBO disseminated by the securities information processors ("SIPs") since it would be considered a manual quotation under the Staff's guidance on automated quotations under Regulation NMS. The Exchange disagrees. The SIPs provide valuable information to investors about the market for equity securities traded on the national securities exchanges. Eliminating EDGA's quotation from the SIPs would only serve to reduce transparency into the best prices available for such securities. Indeed, the Commission also recognized this fact when it adopted Regulation NMS, and determined that it was important for the protection of investors to disseminate this information in

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16 See https://markets.cboe.com/us/equities/market_share/.

the public market data stream. The Commission explained its reasoning for rejecting commenters' suggestions that manual quotations should be excluded from the NBBO as such:

> "The Commission continues to be concerned that eliminating all manual quotations from the NBBO would exclude not only inaccessible manual quotations, but also manual quotations that truly establish the best available price for a stock... Such a result could lead to decreased execution quality for investors in these stocks by allowing broker-dealers to ignore the best available quotations when executing customer orders."[17]

As the Commission understood, disseminating the best prices to investors encourages better execution quality, regardless of whether those prices originated from an automated or manual exchange. Ultimately, the LP[2] is designed to increase market quality for investors. Removing EDGA's quotation from the NBBO when it establishes the best bid or offer price in the market would be contrary to this objective, and the objectives stated by the Commission when it decided to include manual quotations in the NBBO. Instead, it would reduce market transparency, and likely result in investor orders being executed at worse prices. The Exchange therefore believes that EDGA's manual quotation should continue to be included in the public market data stream.

Broker-dealers would remain free to determine how to use this information. For instance, a broker-dealer could choose to use EDGA's unprotected quotation to set midpoint prices, or could determine that it is better to exclude manual quotations for this purpose. Similarly, a broker-dealer would be free to determine whether it is necessary or appropriate to use EDGA's quotation as a reference price for the execution of customer orders on ATSs or other off-exchange markets. Consistent with the current regulatory framework, the manual nature of the EDGA quotation would be identified on SIP feeds in the same manner as manual quotations disseminated from the New York Stock Exchange LLC ("NYSE") floor.[18] In addition, the SIPs would continue to

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17 Reg. NMS Adopting Release, supra note 3, at 37537.

18 NYSE operates a trading floor that disseminates manual quotations in certain securities.

disseminate top of book quotations for each registered national securities exchange, ensuing that firms that wish to ignore EDGA's quotations can continue to identify the best bids or offers of protected markets for order routing, trade-through compliance, or other purposes. Regardless of how individual market participants determine to use this information, the Exchange agrees with the Commission's judgment that information about manual quotations is important for public investors, and should be made available in the NBBO disseminated by the SIPs.

VIII. *Quote Rule and comparisons to "last look" in the futures market.*[19]

Commenters also compared the Proposal to last look functionality in the foreign exchange ("FX") market, and addressed concerns that the Proposal would facilitate violation of the Rule 602 of Regulation NMS ("Quote Rule"),[20] or would be inconsistent with the spirit of the Quote Rule. The Exchange believes that comparisons to last look are unfounded. Further, the Proposal is plainly consistent with both the letter and spirit of the Quote Rule, which requires that quotations be firm when presented to a broker-dealer for execution, not at some arbitrary point in time where the broker-dealer has no knowledge of the incoming marketable order.

The Proposal is clearly distinguishable from last look functionality that allows FX market makers to accept or reject an invitation to trade with an incoming marketable order for some period of time after it receives such an offer. With last look, the market maker knows of the existence of the incoming order, as well as the terms of the potential trade (price, side, size, etc.), and can determine whether to accept the order and consummate the trade based on that information, or other factors such as counterparty and credit risk. The LP^2 would have none of those features, and a liquidity provider would not be given an opportunity to refuse to execute a trade after a marketable order has been presented to it for execution. Rather, liquidity providers would continue to set their quoted prices based on available market information, and would only be notified of the

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19 See also Proposal, supra note 1, at 30290.

20 17 CFR 242.602(b)(2).

existence of a liquidity taking order when that order has exited the delay mechanism and is therefore eligible for execution. In other words, liquidity providers on EDGA would continue to operate in exactly the same manner that they do today, continuously updating quotations as market conditions change, with the expectation that any marketable order would be automatically executed against their published quotation once that order is made known to them.

For similar reasons the Proposal is also consistent with the Quote Rule. As explained in the Proposal, the firm quote provisions of the Quote Rule require each responsible broker or dealer to execute an order presented to it, other than an odd lot order, at a price at least as favorable as its published bid or published offer, in any amount up to its published quotation size. This obligation does not apply if the responsible broker or dealer has communicated a revised bid or offer before the incoming order is presented to such broker or dealer. LP^2 would not cause members to violate the Quote Rule as no order would be "presented" to a member for execution against its published quotation until the order has exited the delay mechanism. That is, no broker-dealer would be given an advanced look at incoming delayed orders, and could continue to reprice their quotation based on available market information until such time as the order is presented for execution. In no sense could an order be considered to have been presented to that broker-dealer pursuant to the Quote Rule if the broker-dealer does not even know of its existence. Indeed, it would strain credulity to interpret the Quote Rule as somehow imposing a regulatory obligation on broker-dealers to remain posted at stale prices simply because there might be an unknown marketable order seeking to access that price. Once an order has exited the delay mechanism and is presented for execution, it will trade against the resting quote. The liquidity provider would not thereafter have an opportunity to refuse the trade – *i.e.*, the liquidity provider's quotation would be "firm" consistent with both the letter and the spirit of the Quote Rule.

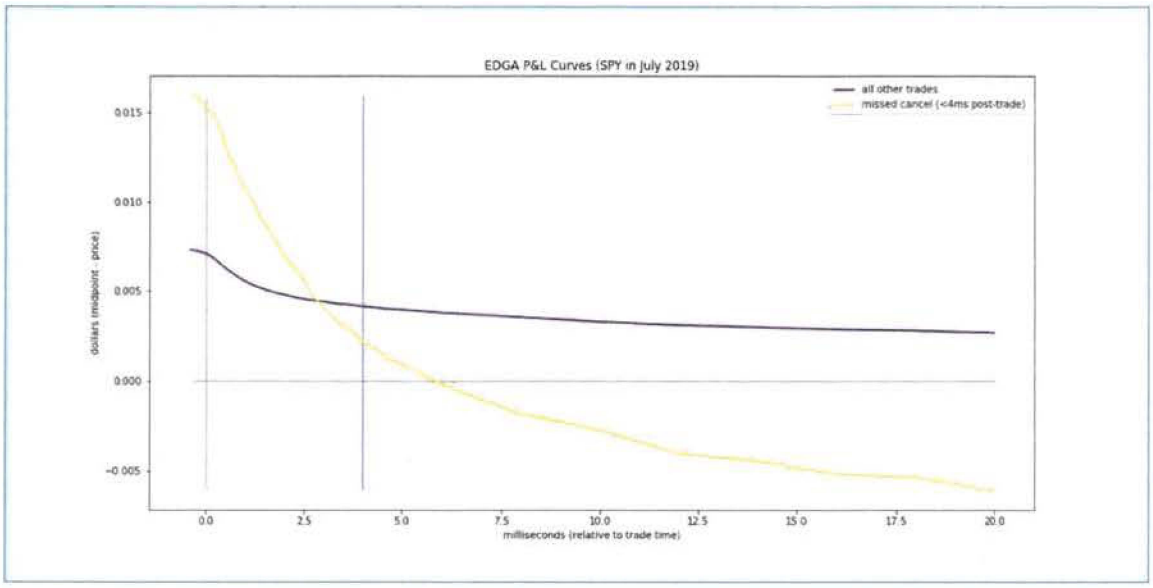
IX. *Conclusion*

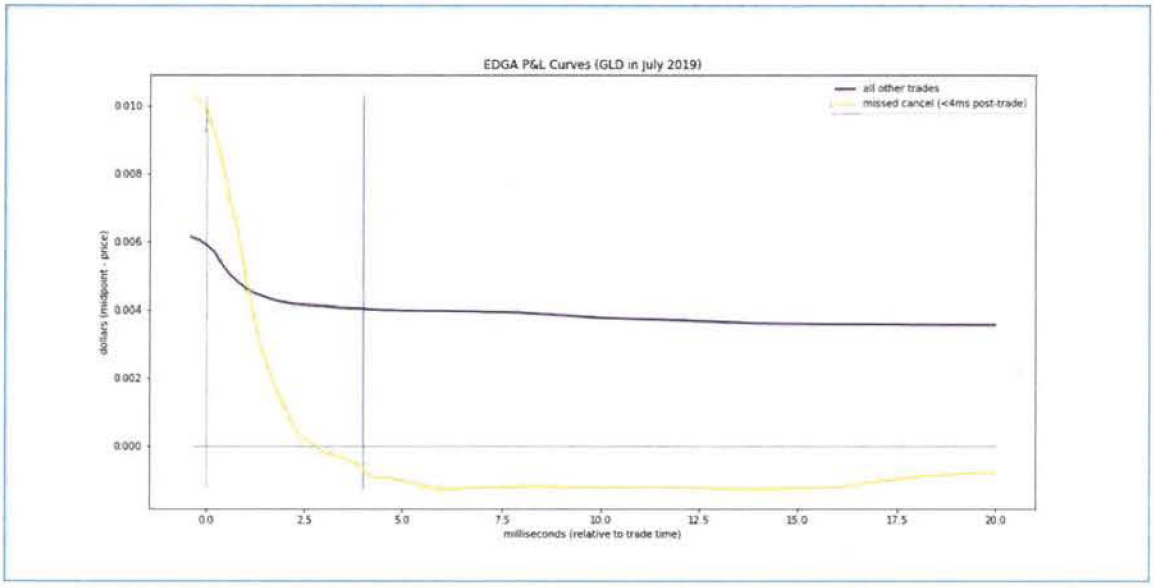
The LP[2] mechanism is designed to improve market quality for investors. It would do this by reducing adverse selection risks of liquidity providers that provide a needed service to the U.S. equities markets. The Exchange therefore believes this Proposal would encourage fair, orderly, and efficient markets that benefit all investors. Further, the Proposal would provide these benefits to investors on a voluntary basis, on an unprotected exchange that market participants are free to ignore. The Exchange therefore respectfully requests that the Commission approve the Proposal.

Sincerely,

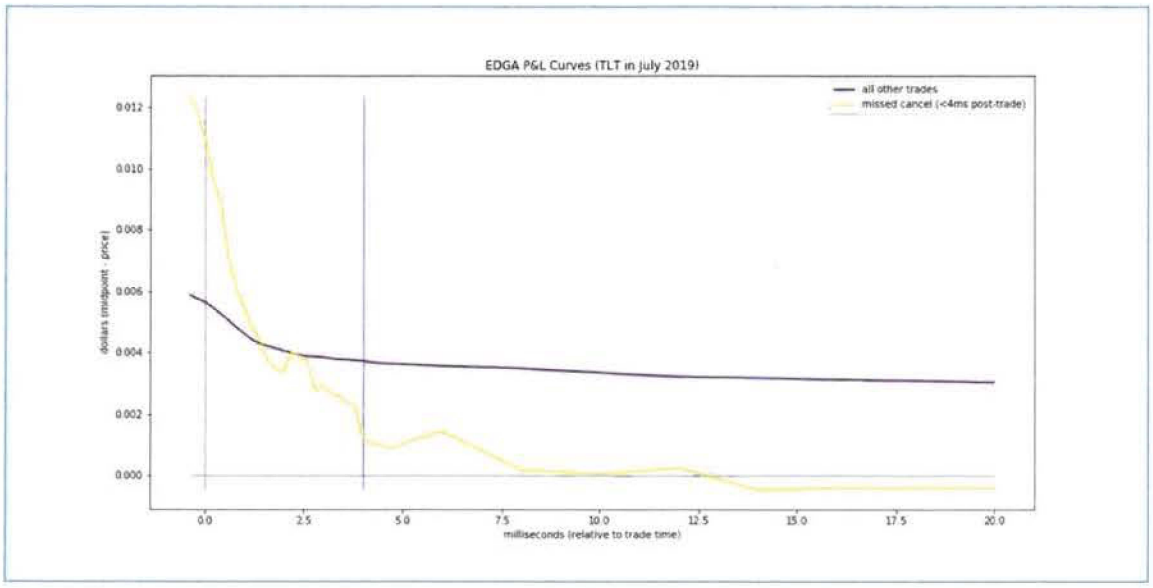
Adrian Griffiths
Assistant General Counsel

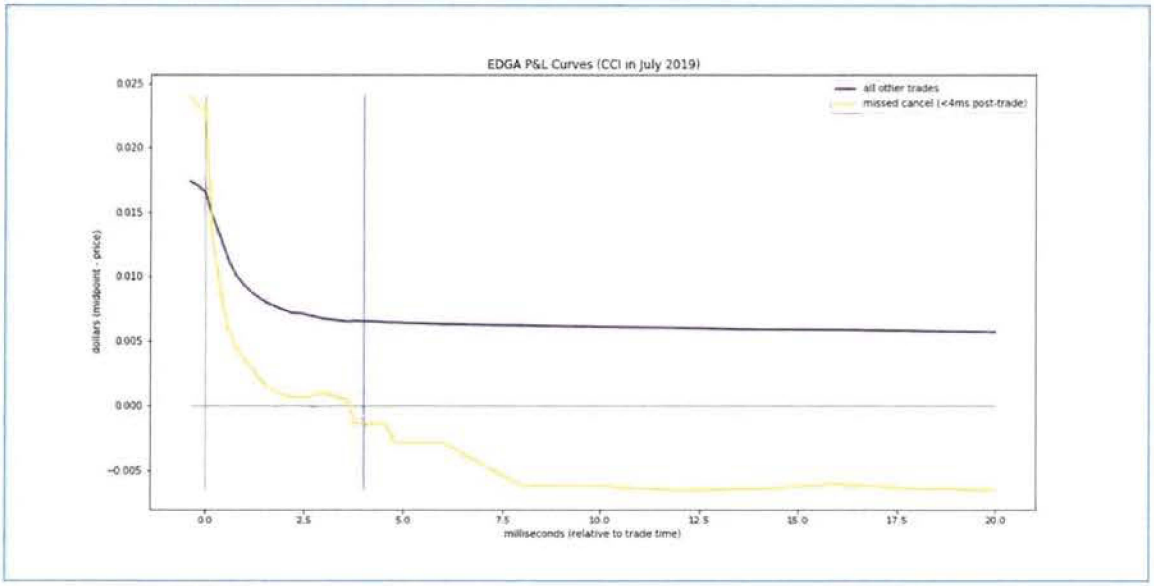
Appendix: EDGA Markout Statistics for July 2019 [21]

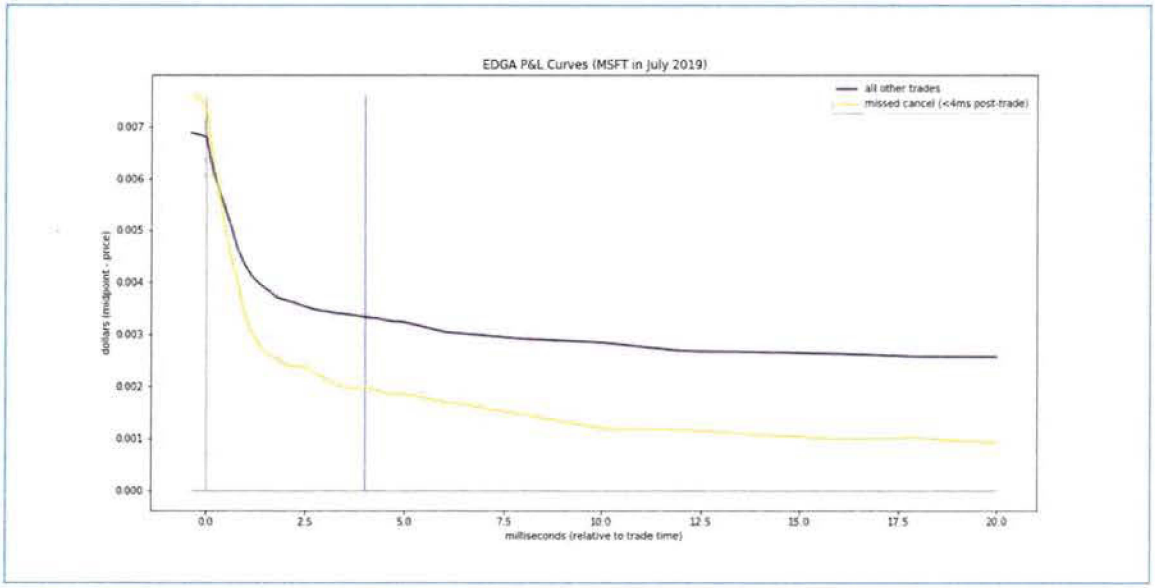


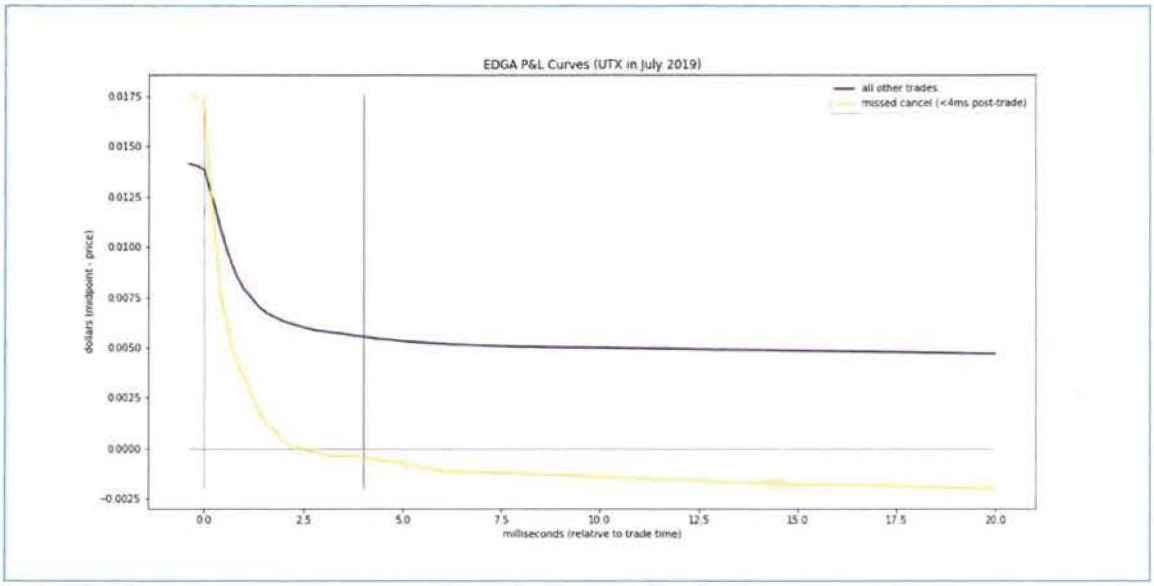


21 Symbols include three equity securities that are associated with an actively traded futures contract: SPY, TLT, and GLD. For illustration of the impact on corporate stocks it also includes three symbols included in the S&P 500: CCI, MSFT, and UTX.


EDGA P&L Curves (TLT in July 2019)
all other trades
missed cancel (<4ms post-trade)
dollars (midpoint - price)
0.012
0.010
0.008
0.006
0.004
0.002
0.000
0.0
2.5
5.0
7.5
10.0
12.5
15.0
17.5
20.0
milliseconds (relative to trade time)


EDGA P&L Curves (CCI in July 2019)
all other trades
missed cancel (<4ms post-trade)
dollars (midpoint - price)
0.025
0.020
0.015
0.010
0.005
0.000
−0.005
0.0
2.5
5.0
7.5
10.0
12.5
15.0
17.5
20.0
milliseconds (relative to trade time)


EDGA P&L Curves (MSFT in July 2019)
all other trades
missed cancel (<4ms post-trade)
dollars (midpoint - price)
0.007
0.006
0.005
0.004
0.003
0.002
0.001
0.000
0.0
2.5
5.0
7.5
10.0
12.5
15.0
17.5
20.0
milliseconds (relative to trade time)


EDGA P&L Curves (UTX in July 2019)
all other trades
missed cancel (<4ms post-trade)
dollars (midpoint - price)
0.0175
0.0150
0.0125
0.0100
0.0075
0.0050
0.0025
0.0000
−0.0025
0.0
2.5
5.0
7.5
10.0
12.5
15.0
17.5
20.0
milliseconds (relative to trade time)