



May 26, 2020

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

Re: Notice of Proposed Rule Regarding Market Data Infrastructure (Release No. 34-88216; File No. S7-03-20)

Dear Ms. Countryman:

MEMX LLC (“MEMX”)¹ appreciates the opportunity to provide comments on the proposed rule published by the Securities and Exchange Commission (“Commission”) to update the national market system for the collection, consolidation, and dissemination of information with respect to quotations for and transactions in NMS stocks (the “Infrastructure Proposal” or the “Proposal”).² While the Infrastructure Proposal is complex, MEMX is providing an initial response to the Commission’s request for comment that focuses on key aspects of the Proposal. MEMX commends the Commission’s ongoing work to improve market data available to the industry and looks forward to continuing to review and discuss aspects of the Proposal going forward.

I. Introduction and Executive Summary

MEMX is a consortium-owned initiative backed by a group of diverse global financial institutions representing the interests of retail broker-dealers, global banks servicing retail and institutional investors, leading market makers and buy-side investors. MEMX firmly believes that competition in the marketplace brings out the best in all the participants and benefits investors. As a new industry entrant in the market designed for all investors, MEMX hopes to engage in industry discussions generally, and specifically in the discussion regarding the Infrastructure Proposal, with a fresh perspective, unencumbered by legacy business interests.

On January 8, 2020, the Commission proposed reforms to the consolidated data governance structure (the “Governance Proposal”),³ including consolidation of the existing market data NMS plans into a single NMS plan, expanding voting representation to non-SROs market participants to one-third of the voting power and reducing the emphasis on voting based on individual

¹ On May 4, 2020, the Commission approved the MEMX Form 1 application for registration as a national securities exchange. See Securities Exchange Release No. 88806 (May 4, 2020), 85 FR 27451 (May 8, 2020).

² See Securities Exchange Act Release No. 88216 (February 14, 2020), 85 FR 16726 (March 24, 2020).

³ See Securities Exchange Act Release No. 87906 (January 8, 2020), 85 FR 2164 (January 14, 2020).

exchange medallions. MEMX broadly supported the Governance Proposal and applauds the Commission for its recent order implementing its proposal and directing the participants in the current market data plans to file a new single NMS plan by August 11, 2020 (“Governance Order”).⁴

MEMX believes the Commission’s Governance Order in combination with the Infrastructure Proposal provide a path towards a competitive and improved market data paradigm. However, as explained below, MEMX believes this path requires significant change to the current market data model. Only through deliberate and extensive modernization will the perceived goals of the proposals be realized; incremental change crafted to maintain aspects of the status quo will further complicate an already complex ecosystem, will result in additional costs to the industry and will not address the perceived issues associated with the existing current market data structure. Should the latter occur, the Commission may be better served doing nothing at this time and instead rely on the enhancements to the governance model set out in the Governance Order to achieve incremental change.

MEMX acknowledges that information asymmetries exist between market participants consuming consolidated data disseminated through the exclusive securities information processors (“SIPs”) and market participants consuming proprietary data feeds directly from national securities exchanges (also known as, the two-tiered market data model). MEMX believes the best way to achieve the desired change intended by the Infrastructure Proposal is to make the market data provided by exchanges to self-aggregators and competing consolidators (hereafter, “NMS data”) and exchange proprietary data equal in terms of content and distribution. Specifically, all data currently made available through proprietary data feeds should be available through NMS data feeds. This includes complete depth-of-book data (and thus all odd lot data), auction data and regulatory data. In addition, the depth-of-book feed currently disseminated as a proprietary data feed should be the same feed used by each exchange to source the data used to create and disseminate NMS data under the NMS plan.⁵ Without these changes, the two-tiered market data model will continue to exist.

At the same time as MEMX sees an opportunity for and supports significant change to the market data model, MEMX has concerns with changes to the Order Protection Rule (OPR) that would no longer protect round lots. MEMX believes the Commission should seek to preserve the status quo with respect to OPR by ensuring consistency between the national best bid and offer (NBBO) and the protected best bid and offer (PBBO) to avoid the additional confusion that would likely result. MEMX supports continued dialogue regarding OPR reform but believes it should take the form of proposals directed at modifying OPR, not through market data reform.

MEMX supports the following recommendations:

- Redefining round-lot sizes for BBO and NBBO calculations.

⁴ See Securities Exchange Act Release No. 88827 (May 6, 2020), 85 FR 28702 (May 13, 2020).

⁵ This would further reduce risk and expedite the delivery timeline as myriad feed handlers are readily available for use to consume and process proprietary data feeds.

- Using the redefined round-lot sizes consistently for other purposes, including protected quotations and PBBO calculations.
- Offering core data pursuant to the NMS Plan that is the same as the data offered via proprietary data feeds. Odd lot quotes, depth-of-book quotes, auction information and regulatory data should be included as NMS data.
- Introducing Self-Aggregator and Competing Consolidator models to reduce latency, improve resiliency, encourage competition, and ease Rule 603(a) requirements.

We believe the recommendations above would strengthen existing consolidated SIP data products and provide a foundation to introduce new data products. Our views are further discussed in detail below.

II. Background

Regulatory initiatives coupled with technology advancements have brought significant changes in the structure of the markets, particularly since Regulation NMS was implemented in 2005. The electronification of trading and order routing has increased the demand for data, and Regulation NMS explicitly authorized the offering of proprietary data feeds by exchanges. However, the rules governing consolidated market data have largely remained unchanged since the 1970s and the development of consolidated data content and systems has lagged meaningfully behind the development of exchange proprietary data products. The consolidated data feed is primarily used for display purposes by retail investors and registered representatives and is not sufficient for electronic trading purposes. As a result, market participants have increasingly relied on proprietary exchange data feeds for real-time electronic trading purposes given the superior content and transmission speeds. Many buy-side institutions encourage their brokers to invest in the fastest proprietary exchange data feeds to meet their best execution obligations, and brokers are required by regulation to take the consolidated data feeds to receive important regulatory data (e.g., Limit Up-Limit Down (LULD) price bands are generated by the SIPs) and meet Vendor Display Rule (VDR) obligations, which are required for display use when making trading or routing decisions. Thus, while many market participants consume either proprietary data feeds or consolidated SIP data feeds depending on their business model, many market participants instead consume both proprietary data feeds and consolidated SIP data due to regulatory obligations and business needs.

III. Additional Data Content

The overall proposal would enhance and expand the content of NMS data to better meet the diverse needs of market participants in today's equity markets. As discussed further below, MEMX supports adding additional content to NMS data products to provide investors with sufficient information to meet their trading objectives.

Today, consolidated SIP data includes only top-of-book quotes (excluding odd lots) and trades, which is of limited use, as well as certain regulatory data. Adding odd lot quotes, depth-of-book data and auction information to NMS data would bring value to market participants and should be included as core data.

A. Round Lot Definition; BBO and NBBO

The proposal would provide for a revised “round lot” size definition for stocks priced over \$50 for purposes of determining the best bid and offer (“BBO”) for each exchange and national best bid and offer (“NBBO”). Currently, BBOs and NBBOs are calculated in round lot sizes of 100 shares.

MEMX supports redefining the lot size for BBO and NBBO calculations based on a tiered definition that scales downward as stock price increases. Once tiers are required, although technology changes will be needed to implement the tiering structure, MEMX does not believe that there is significant additional complexity associated with supporting differing numbers of tiers. MEMX believes the Commission should adopt a tier structure that maximizes transparency for odd lot trading while at the same time keeps it as simple as possible for both institutional and retail traders.

As outlined in greater detail below, however, MEMX is concerned with a departure from the current consistency between the definition of round lot and various other definitions and regulations based on round lot size. Instead, MEMX supports consistent use of the amended round lot in the same ways it is used today, i.e., for purposes of Reg NMS in determining protected quotations and the protected NBBO (“PBBO”), for Rule 605, for Reg SHO, etc. MEMX is concerned that the change to the round lot definition will be ineffective and create new complexity and new problems if consistency with its current use is not maintained.

B. Protected Quotations and PBBO

The proposal would only protect quotes of 100 shares (including odd lots at a single price level that aggregate to 100 shares), regardless of the round lot size. Currently, there are 12 stocks with smaller round lot sizes that would no longer be protected, and if the round lot proposal described above is implemented, that number would be much larger.

By not protecting small round lot sizes, the market data Infrastructure Proposal would change the way stocks are traded and MEMX believes significant confusion could result. Having different calculations for the NBBO and protected quotes will add confusion and complexity. Firms would have to track NBBO liquidity while separately tracking protected quotes to prevent trade-throughs. There will be instances when the NBBO is narrower than the PBBO and brokers will need to decide if they should ignore a better-priced quote on an exchange. Furthermore, the proposed requirement to provide all levels of depth up to the PBBO, combined with the changes in the definition of the PBBO to disallow aggregation across price levels that will widen the PBBO creates implementation difficulties related to the variable and potentially large number of levels that must be published.

Accordingly, in contrast to the Commission’s proposal, MEMX supports use of round lots, as amended, in the protected quote calculation (*i.e.*, protecting quotations for less than 100 shares if a round lot). This approach would reduce risk and be the least disruptive to the market because it

would allow existing technology to continue to operate without significant change. The current execution and routing logic that has been in place since the inception of Regulation NMS could remain intact, rather than needing to implement new logic and workflows. While industry discussion continues regarding the existence and implementation of the OPR, MEMX believes that the Infrastructure Proposal should remain focused on enhancing the availability and usefulness of NMS data and reducing information asymmetries between NMS data and proprietary data feeds thereby allowing OPR to be addressed separately in a comprehensive fashion.

C. Add Depth-of-Book Data

The new depth-of-book (DOB) proposal would include, for each SRO, an aggregation of all quotes at each price between the BBO and protected BBO (if different) and at each of the next 5 prices. MEMX is concerned that this proposal may be counterproductive and confusing. While MEMX supports the availability of additional content through the consolidated market data NMS Plan, MEMX disagrees on implementation and believes there is a simpler and more effective alternative.

Instead of the Commission's DOB proposal, MEMX supports adding full DOB data including order-by-order data across all price levels. In other words, the data required pursuant to the NMS Plan should be the same as that offered via proprietary data feeds. Combined with the self-aggregator and competing consolidator proposals set forth below, MEMX believes this is the most efficient way to improve the quality of market data and remove asymmetries between proprietary data and NMS data. This would eliminate the current reality that a large percentage of the market must purchase both consolidated data and proprietary data feeds to comply with regulatory obligations and to remain competitive, rather than a paradigm where one determines the frequency, amount, usage, and content of data that one subscribes to depending on one's business model.

One obvious response to the concept of full DOB data being provided under the NMS Plan is that many data recipients do not have the business need or technological savvy to consume a full DOB data feed. MEMX believes the simple answer was proposed by the Commission – competing consolidators. So long as there is a mechanism for market data vendors to receive, consume, consolidate, and distribute data, such vendors should be able to develop market data products for which there is demand, including separate products for top-of-book (TOB) quotes, DOB quotes, trades, auction information, and regulatory data. Further, there could be separation by listing exchange or product type (*e.g.*, stock, ADR, ETP, etc.), if needed. This would also give data recipients the ability to only purchase data that they need, and if standardized through an industry initiative, would increase resiliency and reliability through interoperability and reduced complexity.

D. Add Auction Information and Other Consolidated Data

MEMX supports the addition of auction information as NMS data. Opening and closing auction volume accounts for a significant and growing percentage of average daily volume for the

average equity security. The closing auction is the largest volume event of the day and the prices are used to calculate Net Asset Value (“NAV”) for Exchange Traded Products, mutual funds and indexes. Noticeable price and volume changes occur when closing imbalance information is first published during continuous regular-hours trading. Consistent with its views noted elsewhere in this letter, in order to develop a competitive NMS data regime, inclusion of auction information under the NMS Plan is important to narrow the difference between NMS data and proprietary data.

For the same reasons, MEMX also supports including the following data as NMS data: regulatory data generated by the primary listing market (*e.g.*, Reg SHO circuit breakers, LULD price bands and trading pauses, and market wide circuit breakers), administrative, exchange-specific program data (*e.g.*, retail liquidity provider programs) and other information (*e.g.*, round lot size).⁶

IV. Improve Market Data Infrastructure

Due to the current inherent geographic and aggregation latency, market data received from the SIPs is inherently latent compared to exchange proprietary data. The CTA/CQ SIP for Tape A/B securities operates out of a data center in Mahwah, NJ and the UTP SIP for Tape C securities operates out of a data center in Carteret, NJ. The 13 equity exchanges currently operating are located in primary data centers in Mahwah (NYSE exchanges), Carteret (Nasdaq exchanges), and Secaucus, NJ (Cboe exchanges and the access point for IEX; future primary data center for MEMX, as well as LTSE and MIAX PEARL equities). During the data consolidation process, exchange and off-exchange data first travels from these dispersed locations to the SIPs,⁷ and then it is consolidated and retransmitted to data recipients in various other locations. This required route to the SIPs can result in hundreds of microseconds of latency. Market participants use different telecommunication techniques over mediums such as fiber optic cable, radio (millimeter wave/microwave) and laser, as well as proprietary and custom hardware solutions, to facilitate the transmission of this data over large geographic distance depending upon their latency needs. Because of these inherent geographic differences, market participants may each have a different view of market data and events based on where they are located and the technologies and telecommunication techniques used. This continues to be true even in light of the Infrastructure Proposal, and whether or not the Commission chooses to adopt the changes suggested by MEMX herein. However, MEMX believes that the Commission’s Infrastructure Proposal provides a path to reducing the disparity that exists between consolidated market data and proprietary data caused by geography, primarily due to the introduction of self-aggregators and competing consolidators.

⁶ MEMX agrees with the Commission that since OTCBB stocks, corporate bonds, and indices are not NMS securities as defined in Regulation NMS, “concurrent use” data should not be considered core data and should be removed.

⁷ <https://www.ctaplan.com/latency-charts> and http://www.utpplan.com/latency_charts.

A. Introduce Self-Aggregators

The proposal would require each SRO to make NMS data available directly to self-aggregators and competing consolidators (discussed below) using the same access method, infrastructure, and delivery semantics as exchanges offer for their proprietary data, including fiber optic and wireless. Self-aggregation would allow data recipients to access direct connections to each exchange to receive NMS data where it is produced and not rely on NMS data from a consolidator at a central location. In order to reduce consolidation and geographic latency, many firms and exchanges (including MEMX) already consume exchange proprietary data feeds and use high performance consolidation technology to construct a direct or local NBBO when and where required. Self-aggregated NMS data could be used for internal non-display purposes (*e.g.*, algorithmic trading, smart order routing, alternative trading systems, investment analysis, risk management, compliance) or internal visual display.

MEMX supports the self-aggregator proposal, which would allow firms to collect and consolidate data themselves rather than using a central consolidator. This approach reduces geographic latency by bringing the consolidated data architecture in line with proprietary data solutions. As MEMX proposes above, exchanges should provide a single data feed, which is their respective current proprietary DOB feed, to satisfy the requirements of the NMS Plan. The proposal would simplify data distribution for exchanges by eliminating the need to operate multiple data distribution systems and would ease Rule 603(a) burdens, which prohibits an exchange from sending out proprietary data faster than consolidated data.⁸

MEMX notes that the proposed definition of self-aggregator currently only applies to broker-dealers. Exchanges must also receive and process data in order to comply with Regulation NMS. Accordingly, Exchanges should also be allowed to be self-aggregators, which would provide more flexibility for exchanges themselves to use NMS data products (if they include sufficient data and are provided via the same protocols as proprietary data) versus exchange proprietary data products.

B. Introduce Competing Consolidators

Today, the SROs provide top-of-book quotes and trades to two exclusive SIPs, which aggregate and disseminate the data into single, consolidated data feeds (albeit two separate feeds given the existence of two separate SIPs). The SIPs calculate NBBOs and LULD price bands, distribute regulatory data (*e.g.*, halts and SSRs) and are responsible for maintaining the revenue allocation formula used to allocate consolidated data revenue back to the exchanges and FINRA.

⁸ Exchanges currently provide data to the SIPs via TCP unicast protocols. The output of both the SIPs and exchange proprietary feeds use multicast, which is better suited for simultaneous distribution of data over diverse network links and allows for the replay recovery of missed messages. Under the new structure, exchanges could eliminate the current TCP process and rely on a single data distribution process that would, by definition, be compliant with Rule 603(a).

MEMX supports the proposal to replace the exclusive SIPs with multiple competing consolidators (SRO and non-SROs) to allow for more competition among consolidators in an effort to improve resiliency, speed, and reduce industry costs. Competing consolidators would be subject to certain operational standards (promptness, accuracy, reliability, fairness), and MEMX believes they should be subject to Reg SCI compliance, as proposed. MEMX believes that Regulation SCI would help to ensure the reliability of the data consumed and assist those who select and rely on a competing consolidator to use normal vendor diligence practices to select the competing consolidator from whom they would receive data. A lesser quality standard might result in vendors operating as competing consolidators without the proper operational capacity, integrity, resiliency, availability and security. In addition, the consolidation process utilized by competing consolidators (and self-aggregators) should be standardized, which would provide consistency for end consumers to handle consolidated data sets and to quickly migrate to a new competing consolidator if necessary.

Competing consolidators would offer various consolidated data products and would compete based on fees, service levels, performance, analytics and other factors. Competing consolidator pricing would incorporate fees charged for their consolidation services and costs associated accessing exchanges data and data transmission.

The combination of self-aggregators and competing consolidators is a better solution than adopting previously proposed distributed SIPs. In the Distributed SIP proposal, the two existing SIP providers would establish instances of their systems in multiple data centers (Mahwah, Carteret, Secaucus, and Chicago) so recipients could consume consolidated data for Tape A, B, and C securities from one or more of the locations. The Infrastructure Proposal is superior in this regard, as self-aggregators address geographic latency concerns and competing consolidators allow for additional competition at varying locations. MEMX agrees with the Commission that “the distributed SIP model could result in significant additional costs and complexity and would not be likely to competitively address all forms of content and latency differentials.”⁹

V. Competing Market Data Products

MEMX sees a number of use cases for an enhanced consolidated data product line. However, rather than putting the Commission, or the Operating Committee for the NMS data plan for that matter, in the position of designing such data products, MEMX believes that competing consolidators could develop and enhance myriad different products to satisfy the varying needs of the industry if given the opportunity. As set forth above, MEMX supports changes to eliminate disparity between the latency and content provided via the NMS plan and proprietary data feeds. The new content and infrastructure enhancements would provide an opportunity to introduce new less-expensive NMS data alternatives to proprietary data products.

⁹ Infrastructure Proposal, at 16796.

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VI. Conclusion

MEMX thanks the Commission for continuing to push forward with critical initiatives such as the Governance Proposal and the Infrastructure Proposal. While MEMX is concerned about the implementation of specific aspects of the Proposal, MEMX broadly supports the objectives of the Proposal and offers its assistance to the Commission as it moves forward with this important initiative. Please feel free to contact me at [REDACTED] or at [REDACTED] if you have any questions related to this matter.

Sincerely,



Anders Franzon
General Counsel

cc: The Honorable Jay Clayton, Chair
The Honorable Hester M. Peirce, Commissioner
The Honorable Elad L. Roisman, Commissioner
The Honorable Allison Herren Lee, Commissioner
Brett Redfearn, Director, Division of Trading and Markets
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