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March 31, 2023

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

RE: File No. S7-30-22; Release No. 34-96494; Regulation NMS: Minimum Pricing Increments, Access Fees, and Transparency of Better Priced Orders

Dear Ms. Countryman:

On behalf of RBC Capital Markets ("RBCCM"), we appreciate the opportunity to comment on the above referenced proposed rule (hereinafter "the Proposal") from the U.S. Securities and Exchange Commission ("Commission" or "SEC").[1] RBCCM is the investment banking platform of Royal Bank of Canada.[2] RBCCM is a U.S.-registered broker-dealer that, among other activities, provides equities trading and execution services to retail and institutional investors. These investors include large investment managers with trillions of dollars in assets under management. Those assets reside in employee pension funds, mutual funds, and other vehicles that hold the savings of individual investors.

Background and Overview

RBCCM has supported the Commission's recent efforts to strengthen the fairness, transparency, and efficiency of U.S. equity markets. These efforts include the rule on Market Data Infrastructure ("MDI") and the rule to establish a transaction fee pilot, among other Commission actions.[3] RBCCM has appreciated opportunities to discuss these

[1] Regulation NMS: Minimum Pricing Increments, Access Fees, and Transparency of Better Priced Orders, Release No. 34-96494 (Dec. 14, 2022), 87 FR 80266 (Dec. 29, 2022) (File No. S7-30-22), available at **https://www.govinfo.gov/content/pkg/FR-2022-12-29/pdf/2022-27616.pdf**.
[2] Royal Bank of Canada (RBC), headquartered in Toronto, Ontario, is a global provider of financial services, including personal and commercial banking, wealth management services, corporate and investment banking, and life insurance and transaction process services. RBC's approximately 97,000 employees serve more than 17 million personal, business, public sector, and institutional clients worldwide through offices in Canada, the United States, and 27 other countries. In the United States, RBC's approximately 13,000 employees primarily provide corporate and investment banking, wealth management, asset management, and retail banking services to customers and clients in more than 40 states.
[3] *See*, e.g., comment letter dated November 12, 2020, from Rich Steiner, Head of Global Market Structure, RBC Capital Markets, related to Joint Industry Plan; Notice of Filing of a National Market System Plan Regarding Consolidated Equity Market Data, available at **https://www.sec.gov/comments/4-757/4757-8011716-225373.pdf**; comment letter dated May 27, 2020, from Rich Steiner, RBC Capital Markets, related to Market Data Infrastructure, available at **https://www.sec.gov/comments/s7-03-20/s70320-7239991-217149.pdf**; two comment letters dated February 4, 2020, from Rich Steiner, RBC Capital Markets, related to two SRO NMS rule proposals for confidentiality and conflicts of interest policies for their NMS Plans, available at **https://www.sec.gov/comments/sr-ctacq-2019-04/srctacq201904-6768288-208067.pdf** and **https://www.sec.gov/comments/sr-ctacq-2019-01/srctacq201901-6768289-208068.pdf**; comment letter dated December 10, 2019, from Rich Steiner, RBC Capital Markets, in support of the SEC Proposal to Rescind the Effective-Upon-Filing Procedure for NMS Plan Fee Amendments, available at **https://www.sec.gov/comments/s7-15-19/s71519-6526196-200406.pdf**; comment letter dated October 25, 2019, from Rich Steiner, RBC Capital Markets, providing analysis related to

and other important reforms with Commission officials and has presented RBCCM research and analyses in the course of the discussions.

As we understand it, the Proposal has seven fundamental objectives:

i. Adopting variable minimum pricing increments (MPIs) / tick sizes for quoting and trading NMS stocks
ii. Harmonizing tick sizes for trading and quoting across all trading venues
iii. Reducing the access fee caps from 30 mils to 10 mils, and for some stocks, 5 mils
iv. Enhancing the transparency of better priced orders, including odd lots
v. Exposing retail orders to greater competitive forces on public markets
vi. Eliminating the retroactive nature of exchange volume pricing tiers
vii. Implementing on an accelerated schedule a portion of the (MDI) rule, which would introduce a variable, smaller round lot regime as well as disseminating better priced odd lot orders across the consolidated market data feeds (SIPs).

We are encouraged that the SEC is focusing on equity market structure topics in general, and specifically on helping to ensure investors benefit from lower access fees, greater transparency, and exchange trading volume tiers that are not retroactive. We have been supportive of these initiatives.[4] In addition, we support the agency's efforts to improve upon the one-size-fits-all tick regime for stocks above $1.00.

However, we have strong concerns that the Proposal will result in unintended consequences. The Proposal is highly prescriptive and complex and will affect most securities. Implementing so many changes to important variables at or around the same time (access fees, minimum pricing increments and round lot sizes) will make it more difficult for the Commission to assess the specific effects any particular change has caused, whether the change is the desired outcome (or instead unintended), and whether other consequences ensue.

If the Commission eventually adopts the Proposal, RBCCM recommends a formal review process during a defined period after implementation, through which economists review performance metrics and the effects to the industry and investors to ensure the rule is fulfilling the Commission's original objectives and importantly, not

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market data and access, available at **https://www.sec.gov/comments/4-729/4729-6353203-195588.pdf**; Brief of Amicus Curiae, RBC Capital Markets, LLC, In Support of Respondent and Denial of the Petitions for Review, New York Stock Exchange LLC, Et Al. v Securities and Exchange Commission, D.C. Cir. Docket No. 19-1042, filed August 1, 2019; comment letter dated August 15, 2019, from Rich Steiner, RBC Capital Markets, regarding Proposed Rule Change to Introduce a Liquidity Provider Protection, available at **https://www.sec.gov/comments/sr-cboeedga-2019-012/srcboeedga2019012-5977239-190213.pdf**; comments of RBC participant Rich Steiner, RBC Capital Markets, SEC Roundtable on Market Data and Market Access, October 25-26, 2018, available at **https://www.sec.gov/spotlight/equity-market-structure-roundtables/roundtable-market-data-market-access-102618-transcript.pdf**; comment letter dated October 16, 2018, from Rich Steiner, RBC Capital Markets, in support of the proposed SEC Transaction Fee Pilot, available at **https://www.sec.gov/comments/s7-05-18/s70518-4527261-176048.pdf**; comment letter dated May 24, 2018, from Rich Steiner, RBC Capital Markets, in support of the proposed SEC Transaction Fee Pilot, available at **https://www.sec.gov/comments/s7-05-18/s70518-3711236-162472.pdf**; comment letter dated September 23, 2016, from Rich Steiner, RBC Capital Markets, in support of Equity Market Structure Advisory Committee (EMSAC) Recommendation for an Access Fee Pilot, available at **https://www.sec.gov/comments/265-29/26529-86.pdf**; comment letter dated May 24, 2016, from Rich Steiner, RBC Capital Markets, regarding EMSAC Framework for Potential Access Fee Pilot, available at **https://www.sec.gov/comments/265-29/26529-70.pdf**.

[4] *See*, e.g., comment letter dated November 22, 2013, from Rich Steiner, RBC Capital Markets, regarding potential equity market structure initiatives, available at **https://www.sec.gov/comments/s7-02-10/s70210-411.pdf**.

creating unintended consequences that are detrimental to our well-functioning markets. One example could be a cost benefit analysis looking at the effects these changes have on liquidity. For example, and as the Commission notes in the proposal, "…a smaller tick fragments liquidity in the order book into more price levels, which can increase complexity and the incidence of pennying – which could harm liquidity."[5]

Overall, we believe the Proposal fails to meet the Commission's core objectives in several ways. We address these concerns in greater detail below.

Minimum Pricing Increment

We appreciate that a more nuanced, variable minimum price increment regime for stocks above $1.00 would be better than the "one-size-fits-all" model currently in place. We are particularly supportive of reducing the spread of so called "tick-constrained" stocks. We also appreciate that with smaller tick sizes, it is possible that a more diverse set of market participants—including institutional investors—may have greater access to execute their orders with retail counterparties, which we view as beneficial.

However, we question the rationale of reducing the MPIs in stocks that currently have spreads averaging $0.01 or more. For example, it is not clear to us how a stock with an average spread of $0.03 would benefit by having a $0.005 price increment and therefore significantly more ticks (6 ticks as opposed to the current 3). A recent study by Sida Li and Mao Ye has shown that two ticks is optimal.[6] How will a smaller MPI help narrow a spread that is not already constrained? Further, this more complex tick regime would introduce significant and frequent changes to trading systems, as an indicator would be disseminated regarding the applicable MPI tier for each NMS stock. The tranche in which each stock is included could change from quarter to quarter. The industry would need an appropriate amount of time to be informed of any changes in order to implement them, and to minimize errors as much as possible.

There likely would also be less liquidity at each price point, as historically the introduction of more granular pricing increments leads to a decline in liquidity at each level, particularly at price levels deeper into the depth of book. We also have concerns about the potential of such small tick sizes amplifying de minimis risk taking by market participants that are looking to gain priority over longer duration orders by bidding / offering at notionally inconsequential prices. This potential market behavior would decrease incentives to display orders, which would have a deleterious effect on price discovery. Another effect of the reduced volume at each price level is less relevance of the National Best Bid and Offer ("NBBO") as a benchmark for larger orders.

We are also concerned that with less liquidity at more granular price levels, there would likely be more brittle displayed markets and quote volatility / flickering quotes. As the financial effect of accessing more price levels decreases, and with less liquidity likely at any single price point, we anticipate more intermarket sweep orders being routed at multiple levels into the order books. This could lead to more locked and crossed markets. Furthermore, an increase in volatility coupled with less liquidity could also have a negative effect on companies choosing to go public.

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[5] Proposal at 80316.
[6] *See Discrete Price, Discrete Quantity, and the Optimal Price of a Stock*, Li, Sida and Ye, Mao, December 28, 2022, available at **https://ssrn.com/abstract=3763516** or **http://dx.doi.org/10.2139/ssrn.3763516**.

Lastly, reducing MPIs would likely lead to a significant increase in market data message traffic, as noted in the Proposal.[7] While the Proposal explains that the industry should be able to handle such increases in market data from a technological perspective, any meaningful increase in market data can reasonably be expected to cause a corresponding increase in the fees exchanges charge for it.

For all of the aforementioned reasons, we suggest the Commission take a more modest approach, such as focusing on tick-constrained stocks with fewer MPIs, such as $.005. We also recommend creating a retail exemption for trading at $.0010 price increments. While we agree that harmonizing trade increments for on and off-exchange trading is beneficial, preserving the ability for innovation and competition for retail orders is also important. Exchange Retail Liquidity Programs, for example, already trade at $.0010 price increments within the current $.01 tick regime.

Access Fee Caps

If the MPIs are meaningfully reduced as noted in the Proposal, then access fees would need to be lower as well. Importantly, we believe that lowering the access fee cap would lead to a reduction in broker conflicts of interest, which we have long supported. The economic difference to a broker between routing to an alternative trading system ("ATS") versus an exchange would be much smaller than it is today, if a $.0005 - $.0010 access fee cap replaces the current $.0030 mil cap. While reducing the access fee cap should lower the transaction costs for taking liquidity on some exchanges, we are concerned that any gains in this area will be more than offset by increased market data costs and the cost to implement the pricing changes across a myriad of order management, trading and operational systems. One can take slight comfort in the fee filing standards to which the exchanges would be subject (i.e., reasonable, equitable, not unfairly discriminatory, and not an undue burden on competition).[8] Nevertheless, exchange proprietary market data costs are already exorbitant and continue to increase.[9] We are concerned that this change could incentivize exchanges to raise market data fees even further.

Competition and Innovation

From a competition and innovation standpoint, if ATS operators currently internalize much of their order flow, their costs to operate under this new regime could cause some of them to cease operation. Likewise, from a market maker and a wholesaler perspective, the Proposal could cause them hardship to continue to operate. If the incentives to provide liquidity are so challenged that these market participants are unable to profit, the markets could experience less liquidity, particularly in illiquid securities. Furthermore, if this experiment fails, it would take time for venues that decide to reenter the marketplace to restart their operations, and some may not return at all. If the purported beneficiaries of this rulemaking are retail investors, will they in fact be better off under this new regime in which there could be less competition for their orders? Is it reasonable to expect institutional investors to be liquidity providers for small retail orders, particularly in illiquid securities in short timeframes or during times of

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[7] Proposal at 80268 and 80275. *See also More Ticks, More Messages*, Phil Mackintosh, October 27, 2022, available at **https://www.nasdaq.com/articles/more-ticks-more-messages**.
[8] *See* SEC Staff Guidance on SRO Rule Filings Relating to Fees, May 21, 2019, available at **https://www.sec.gov/tm/staff-guidance-sro-rule-filings-fees**.
[9] "Further, estimates indicate that between 2010 and 2018 data fees charged by some exchanges went up by three orders of magnitude or more, while public data fees went up by 5% during the same period.", Commissioner Caroline Crenshaw, SEC, Statement on Proposals Related to Equity Market Structure, Dec. 14, 2022, available at **https://www.sec.gov/news/statement/crenshaw-insider-trading-20221214-0**.

high volatility or market stress? Even if it is a reasonable expectation, after the carrot has been taken out of the mix, and absent a stick with which to make them, why would those institutional investors do so?

Exchange Volume Tiers

While we are encouraged about eliminating the retroactive attributes of exchange volume tiers, we believe the more optimal solution here would be to remove them entirely. These exchange volume tiers create barriers to entry that only benefit the largest, most active trading firms at the expense of smaller competitors. Increased transparency regarding fees and rebates would be a step in the right direction. However, it is important to note, too, that the fee filing standards may not be fully satisfied with regard to volume tiers, as they could be considered unfairly discriminatory against smaller or newer market participants as well as creating an undue burden on competition.

Implementing a Smaller Round Lot Regime on an Accelerated Schedule

We believe some investors would consider the NBBO less relevant under the smaller round lot thresholds of the MDI rule. With a lower notional value earning protected status at the NBBO, even accessing 100 shares of liquidity would likely move a stock in one of the new tiers' multiple price levels. Furthermore, these smaller notional amounts reduce the risk taken to queue jump displayed orders by placing with slightly more aggressively priced orders ahead of them. Finally, these effects reverberate beyond the NBBO, as the NBBO is also used to calculate midpoint and peg orders. Midpoint pricing seems to be a heavy area of emphasis in the Commission's Regulation Best Execution proposal. This highlights our comment on that proposal regarding understand the effects each of the four December 2022 market structure proposals will have on the others—we do not think it is possible without a staggered implementation period.

Conclusion

RBCCM again appreciates the opportunity to comment on the Proposal. We further appreciate the Commission's consideration of the matters raised, as referenced above. We strongly urge the Commission to revise the Proposal, as referenced above, to ensure that the ensuing changes will be implemented in a timely manner, and will advance the SEC's objectives of greater transparency, reduced conflicts of interest, and create greater efficiencies for investors and other market participants. We would be pleased to discuss these comments in greater detail and provide additional information should there be any questions about the matters raised in this letter.

Sincerely,

R. Steiner

Rich Steiner
Head of Global Market Structure

cc: Gary Gensler, U.S. Securities and Exchange Commission, Chair
Hester M. Peirce, U.S. Securities and Exchange Commission, Commissioner
Caroline A. Crenshaw, U.S. Securities and Exchange Commission, Commissioner
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