

MEMO# 32259

March 4, 2020

SEC Proposal to Update NMS Market Data Infrastructure

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March 4, 2020 TO: ICI Members SUBJECTS: Trading and Markets RE: SEC Proposal to Update NMS Market Data Infrastructure

The SEC unanimously approved a rule proposal (“Proposed Rule” or “Release”) to update the national market system (NMS) and ensure that it continues to promote the fair and meaningful collection and distribution of NMS information.[\[1\]](#) The Proposed Rule would amend Regulation NMS to expand NMS market data content and replace the exclusive securities information processors (SIPs) with a decentralized model.

We summarize the Proposed Rule below and note specific aspects that would particularly interest members: (i) an expansion of “core data” to include odd-lot data, depth-of-book, and auction information; and (ii) the use of “competing consolidators” and “self-aggregators” to collect, consolidate, and disseminate NMS data.

Current Market Data Infrastructure under Regulation NMS and Equity Data Plans

The Release describes the information that the SROs—acting jointly pursuant to NMS Equity Data Plans—currently must provide to exclusive SIPs for public distribution on the consolidated tape.[\[2\]](#) For each NMS stock, this information includes “core data,” which generally refers to (i) the price, size, and exchange of the last transaction; (ii) each exchange’s current highest bid and lowest offer (BBO) and the number of shares available at those prices; and (iii) the national best bid and offer (NBBO). The SIPs also disseminate certain required regulatory data.[\[3\]](#)

Proposed Definition of “Consolidated Market Data”

The Proposed Rule provides a comprehensive definition—“consolidated market data”—specifying all of the information to be collected, consolidated, and disseminated under Regulation NMS. Proposed Rule 600(b)(19) would define this term as (i) core data; (ii) regulatory data; (iii) administrative data; (iv) exchange-specific program data; and (v) additional regulatory, administrative or exchange-specific program data elements.[\[4\]](#)

Expansion of “Core Data” Elements

The Proposed Rule defines and expands “core data,” which currently is limited to the price, size, and exchange of the last transaction in an NMS stock; each exchange’s highest bid

and lowest offer (BBO) and the number of available shares at the BBO; and the national best bid and national best offer (NBBO). Proposed Rule 600(b)(2), however, would expand the term to include (i) quotation sizes; (ii) aggregate quotation sizes; (iii) BBO; (iv) NBBO; (v) protected BBO; (vi) transaction reports; (vii) last sale data; (viii) odd-lot transaction data disseminated pursuant to effective NMS plan or plans required under Rule 603(b); (ix) depth of book data; and (x) auction information.

As discussed below, the expanded definition includes odd-lot data (incorporated in a definition of “round lot”), depth-of-book, and auction information. The SEC states its belief that this additional data would enhance the NMS market data’s usefulness and reduce information asymmetries between market participants who rely on SIP data and those who also use proprietary data feeds. However, OTCBB data for unlisted stocks and data relating to corporate bonds and indices, which are currently provided in SIP data, would not be considered core data.[\[5\]](#)

Further, only the SEC could make any future changes to core data elements by rule amendment. The Proposed Rule, however, requests comment on whether the definition should be able to be amended, *e.g.*, adding additional data elements, through the NMS plan process instead.

Odd-Lot Quote Data

Proposed Rule 600(b)(81) would establish a tiered, price-based definition of “round lot,” which is the basis for bid and offer requirements under Regulation NMS, that incorporates odd-lot quotes for smaller-sized orders, *i.e.*, less than 100 shares, of higher-priced stocks. Accordingly, the BBO transmitted by the SROs and calculated NBBO would need to reflect these smaller round lot sizes. The SEC states its belief that this definition—as shown in the chart below—is “reasonably calibrated” and would add useful information without imposing unnecessary complexity and cost.

Stock Price Group Round Lot Size

\$0.00 - \$50.00	100 shares	\$50.01 - \$100.00	20 shares
\$100.01 - \$500.00	10 shares	\$500.01 - \$1,000.00	2 shares
\$1,000.01 +	1 share		

The stock price used to determine the corresponding round lot size would be based on the stock’s average closing price on the primary listing exchange during the prior calendar month, or the IPO price for newly-issued stocks. Further, based on these tiers, the new quote information added would be limited to odd-lot orders with notional values of \$1,000 or more. The SEC views this threshold as “meaningful order size”[\[6\]](#) and believes that it would mitigate the likelihood of information leakage, *e.g.*, an excessive number of smaller-sized orders routed that may signal a large incoming order.

The proposed “core data” definition also encompasses certain aggregated quotes of odd-lot data. Specifically, SROs would be required to report aggregated odd-lot quotes that equal or exceed a round lot as core data, *i.e.*, they must be included in the BBO, NBBO, and depth of book data (discussed further below). This aggregation would occur for odd-lot quotes across multiple prices and disseminated as the least aggressive price of all such aggregated odd-lots.[\[7\]](#)

In addition to odd-lot quote data, odd-lot transaction data, which is already disseminated by the SIPs pursuant to the Equity Data Plans, would be within the scope of core data.

The SEC points out that adding odd-lot quote sizes to the “round lot” definition would alter other Regulation NMS obligations as follows:

- Rule 602 (the “Quote Rule”): Exchanges would be required to collect and make available quotations for the new lot sizes. Brokers and dealers would be required to communicate bids and offers in the new lot sizes and be firm for such bids and offers.
- Rule 603(c) (the “Vendor Display Rule”): A SIP, broker, or dealer would be required to provide a consolidated display reflecting smaller-sized orders in higher-priced stocks.
- Rule 604 (the “Limit Order Display Rule”): An exchange specialist or OTC market maker would be required to include customer limit orders in the new lot sizes within its published bids and offers.
- Rule 605 (Disclosure of Order Execution Information): The required monthly execution quality statistics that market centers must publish would be based upon an updated NBBO that reflects the new lot sizes.
- Rule 606 (Disclosure of Order Routing Information): The disclosures that a broker-dealer must provide about the handling of not-held orders may reflect more actionable indications of interest in higher priced securities.[\[8\]](#)
- Rule 610 (the “Access Rule”): The rule’s fee limitations would apply to quotes in smaller round lot sizes because they would apply to quotes that are an exchange’s BBO.
- Rule 201 (Regulation SHO): The limitations imposed by Regulation SHO on executing or displaying a short sale order would be based on the new lot sizes.

Requests for Comment. The Release specifically requests comment on whether the proposed “round lot” definition would affect the pricing practices of mutual funds and other investment companies, including the calculation of net asset value or trading in portfolio securities. If there are effects, the Release asks commenters to explain their potential costs and benefits.

The Release also requests comment on all other aspects of the “core data” definition, including whether commenters prefer (i) a more direct requirement for adding additional lot sizes; (ii) different lot sizes and price interval tiers; and/or (iii) a different approach to calculating an NMS stock’s price. The Release also requests comment on whether the proposed definition should alter the other NMS requirements, including how the NBBO is calculated.[\[9\]](#)

Limits on Order Protection for Round Lot Sizes

The Proposed Rule would not extend order protection to the proposed smaller round lot sizes. The definition of “protected bid or protected offer” under Rule 600(b)(61) would be amended to only apply to displayed, automated quotes that are BBOs of at least 100 shares. With respect to aggregated odd-lot quotes, “core data” also would specify that order protection only applies to odd-lot quotes at a single price that, when aggregated, equal 100 shares or more. Given the amended definition of “protected bid or protected offer,” quotes in the smaller round lot sizes would not be subject to the locked and crossed market restrictions under Rule 610(d).

The SEC acknowledges that not extending order protection to the proposed smaller round lot sizes (i) would increase the instances in which the BBO and the NBBO are not protected quotes; and (ii) could cause protected quotes to widen because odd-lot shares at multiple price levels could no longer be aggregated to create a protected quote.[\[10\]](#) However, the SEC states its belief that limiting order protection is appropriate, given the questions about Rule 611’s (the Order Protection Rule) effectiveness and market developments, such as improved trading and order routing technology, that mitigate the need for extending trade protection.[\[11\]](#)

Requests for Comment. The Release requests comment on limiting order protection, including how the proposed changes to the NBBO and protected quotes would affect transaction costs for active and passive institutional investors.[\[12\]](#) The Release also requests comment on (i) whether order protection also should apply to the proposed smaller round lot sizes; and (ii) whether the single-price approach to aggregating odd-lot sizes for quote protection is appropriate. The SEC also expressed interest in views on whether best execution obligations and greater transparency in round lot sizes both would mitigate the absence of order protection.[\[13\]](#) The Release also requests comment on whether the NBBO, which generally reflects protected quotes now, also should remain as such.

Depth of Book

The proposed definition of “core data” also includes certain “depth of book” data. Proposed Rule 600(b)(25) would specify that “depth of book” data includes aggregated quotes at each price between the best bid (and best offer) and the protected bid (and protected offer) (if different), as well as all quote sizes, aggregated at the next five price levels above the protected offer and below the protected bid. The minimum size requirement for depth price levels would be based on the proposed “round lot” sizes.[\[14\]](#) Further, odd-lot quotes at different prices that aggregate into a round lot size or higher would be reported at the least aggressive price for depth of book purposes.[\[15\]](#)

The SEC states its belief that quote decimalization has made top-of-book data less informative, which has made it more difficult to trade competitively and achieve best execution. Further, the availability of depth of book data from exchanges’ proprietary data feeds disadvantages those who rely primarily on SIP data. Therefore, the SEC believes that adding depth of book data would reduce information asymmetry and enhance best execution analysis without too much complexity, e.g., excessive message traffic. Including five price levels, according to the SEC, would approximate liquidity levels at the BBO prior to decimalization.

Requests for Comment. The Release requests comment on including depth of book data, including the proposed number of price levels and the minimum size requirement. The SEC also suggests and seeks comment on alternative approaches, such as including only (i) depth within a \$0.05 band of the protected bid and offer and (ii) prices where the volume of interest equals a certain percentage of volume at the best price, rather than prices related to proposed round lot sizes.

Auction Information

“Core data” would also include “auction information,” as defined by Proposed Rule 600(b)(5). This includes all information specified by exchange rules or an NMS plan (e.g., a LULD plan) that is generated by an exchange leading up to and during an auction, including opening, reopening, and closing auctions, and disseminated during the time periods and at the time intervals provided in those rules and plans. Therefore, each SRO would be required to provide information related to their respective auctions, such as auction order imbalances.

Some auction information is currently in the SIP data for regulatory purposes,[\[16\]](#) but the SEC states its belief that including full auction information is important because of the growth of trading via auctions, including among institutional investors.[\[17\]](#) The SEC specifically noted that opening and closing auction information is especially important for

passive index-tracking investment strategies conducted through mutual funds, ETFs, and similar products.[\[18\]](#)

Requests for Comment. The Release requests comments on including full auction information in core data, including whether the SEC should identify mandatory information elements to be included. Further, the Release asks whether information on orders participating in non-auction matching processes, such as Cboe's market close order, that are related to auctions elsewhere should be included.

Other Data Elements of Consolidated Market Data

The Proposed Rule also specifies three other types of information that would continue to be disseminated as elements of "consolidated market data." First, "regulatory data" would specify other additional data required by SEC and exchange rules and effective NMS plans.[\[19\]](#) Given the elimination of the exclusive SIP model, much of the responsibility for calculating regulatory data would shift from the existing SIPs to a "primary listing exchange" for each NMS stock.[\[20\]](#) Second, "administrative data," would specify administrative, control, and other technical messages, made available by exchanges and/or FINRA pursuant to NMS plans. Third, "exchange-specific program data" would specify information related to exchange retail liquidity programs and other exchange-specific information, e.g., future exchange programs, that are included in NMS plans.

Elimination of Exclusive SIPs - Competing Consolidators and Self-Aggregators

The Proposed Rule would eliminate the centralized model for consolidating and distributing NMS information[\[21\]](#) and allow two new categories of entities to assume the exclusive SIPs' functions: "competing consolidators" and "self-aggregators." Competing consolidators would be allowed to collect, calculate, and disseminate consolidated market data. Self-aggregators, who currently purchase proprietary data and consolidate that data for their own use, i.e., trade for its own account or on behalf of customers, would be able to do so with respect to consolidated market data.[\[22\]](#)

The SEC states its belief that the decentralized model, described below, would "fundamentally improve" the way that NMS market data is provided at lower cost. In particular, competing consolidators and self-aggregators would create a competitive environment that would reduce the geographic, aggregation, and transmission latency differentials between SIP and proprietary data.

Proposed Rule 614(d) would require each competing consolidator to obtain all the necessary information to calculate and disseminate consolidated market data to subscribers (with timestamps) based on terms that are not unreasonably discriminatory.[\[23\]](#) A competing consolidator could offer less or more market data, but still would be required to provide a product that includes only consolidated market data. A subscriber, however, could choose to consume a different level of data based on its own trading needs and the different data products offered by consolidators.

Competing consolidators would be subject to SEC registration,[\[24\]](#) operational capability requirements,[\[25\]](#) and ongoing disclosure requirements such as performance measurements, e.g. latency statistics. Otherwise, they would not be subject to a uniform technical standard with respect to their data product offerings.

SROs would be required to provide competing consolidators and self-aggregators with market data in the same form and manner as currently offered with their proprietary data

products. Therefore, an SRO would be required to provide its information for an NMS stock, including the information needed to generate consolidated market data, in the same format that is provided for its proprietary data.[\[26\]](#) An SRO would also be required to provide its data through the same access methods as provided for its proprietary data. All connectivity options, including co-location, would need to be available regardless of level of data purchased, *i.e.*, consolidated market data or proprietary data.[\[27\]](#) Further, an SRO would be required to provide all access options in a latency-neutralized manner that allows all participants to receive the NMS information at the same time.

The SEC states that the SROs would continue to develop jointly the fees for providing consolidated market data through an NMS plan; per the existing standard for SIP data, such fees must be fair and reasonable and not unfairly discriminatory.[\[28\]](#) Access or connectivity fees, however, would continue to be set forth by individual SROs.

Requests for Comment. The Release requests comment on all aspects of the decentralized model, including (i) whether it would reduce overall data fees for market participants; and (ii) whether it would increase trading complexity due to different NBOs from different competing consolidators. Further, the Release requests comment on two alternatives:

- A distributed SIP model, where each exclusive SIP would place an additional processor in other major data centers, where the additional processor would separately aggregate and disseminate consolidated market data for its respective tape.
- A single SIP alternative, where the existing exclusive SIPs would be consolidated into a single exclusive SIP for all listed securities.

In her statement supporting the Proposed Rule, Commissioner Peirce also seeks comment on whether a self-aggregator should be required to register as a competing consolidator if it aggregates consolidated market data on behalf of affiliates or customers.[\[29\]](#) Commissioner Peirce questioned whether this activity justifies the need to assume the costs and burdens of registration.

Commissioner Roisman Questions on “Best Execution”

The SEC states its belief that the Proposed Rule, through enhanced core data and reduced latencies achieved through greater competition, should allow brokers and dealers to better provide “best execution” to their customers, among other benefits.[\[30\]](#)

In his statement supporting the Proposed Rule,[\[31\]](#) however, Commissioner Roisman seeks comment on (i) whether the Proposed Rule will facilitate best execution; and (ii) whether the SEC should further explain how it perceives the Proposed Rule will facilitate a broker’s best execution obligations. Further, he asks brokers and asset managers to respectively comment on whether the enhanced core data in competing consolidator feeds would affect their respective regulatory best execution analyses. If the Proposed Rule would have no effect, Commissioner Roisman then asks what else would be necessary to improve that analysis.

Were the SEC to be clearer on expectations related to best execution, Commissioner Roisman further seeks comment on how this would affect the scope of order protection, as discussed above.

endnotes

[1] Section 11A of the Exchange Act specifies that the SEC prescribe rules that “assure the prompt, accurate, reliable and fair collection, processing, distribution, and publication of information with respect to quotations for and transactions in [NMS stocks] and the fairness and usefulness of the form and content of such information.”

15 U.S.C. 78k-1(c)(1)(B).

[2] There are three existing Equity Data Plans: the Consolidated Trade Association (CTA) Plan, the Consolidated Quotation (CQ) Plan, and the Nasdaq Unlisted Trading Privileges Plan (Nasdaq UTP). These plans specify the operations of the exclusive SIPs, which include a SIP for the CTA and CQ Plans (“CTA/CQ SIP”) and a SIP for the Nasdaq UTP Plan (“Nasdaq UTP SIP”). The CTA/CQ SIP is operated by the Securities Industry Automation Corporation (an affiliate of the New York Stock Exchange (NYSE)) and is responsible for collecting, consolidating, and disseminating the NMS information for Tape A (*i.e.*, securities listed on the NYSE) and Tape B (*i.e.*, securities listed on exchanges other than the NYSE). The Nasdaq UTP SIP is operated by Nasdaq and is responsible for collecting, consolidating, and disseminating the NMS information in Tape C (*i.e.*, securities listed on NASDAQ).

[3] This regulatory data includes information related to (i) whether a Short Sale Circuit Breaker has been triggered pursuant to Regulation 201 (Regulation SHO); (ii) market-wide limit up-limit down (“LULD”) requirements pursuant to the NMS Plan to Address Extraordinary Market Volatility (“LULD Plan”); and (iii) market-wide circuit breakers, administered by the exchanges and SIPs.

[4] These data elements are currently defined pursuant to the effective NMS plans required under Rule 603.

[5] Currently, Nasdaq UTP Plan Level 1 subscribers can obtain OTCBB quotation and transaction feeds for unlisted stocks. Similarly, the CTA Plan permits the dissemination of “concurrent use” data relating to corporate bonds and indexes.

[6] The SEC also states that defining round lots based on a dollar value, as proposed, would better reflect orders of meaningful size.

[7] Although Regulation NMS currently does not require this information, the SEC noted that many exchanges already report odd-lot quotes to the exclusive SIPs in this manner pursuant to their own respective rules.

[8] Rule 600(b)(1) defines an “actionable indication of interest” as any indication of interest that explicitly or implicitly conveys all of the following information with respect to any order available at the venue sending the indication of interest: (i) symbol; (ii) side (buy or sell); (iii) a price that is equal to or better than the national best bid for buy orders and the national best offer for sell orders; and (iv) a size that is at least equal to one round lot.

[9] The SEC, for example, requests comment on the initial odd-lot proposal released by the operating committees of the Equity Data Plans last October. Rather than require the NBBO to include smaller odd-lot sizes, such data would instead be provided as “ancillary” data to

SIP customers, including a separate “odd-lot” BBO.

[10] The SEC notes that protected quotes are currently almost always the best bid or best offer of a trading center, so the NBBO currently reflects protected quotes.

[11] The SEC also notes that even without quote protection, best execution requirements would continue to apply to odd-lot orders, particularly the smaller-sized orders included in the proposed “round lot” definition. The SEC also states its belief that best execution obligations should mitigate concerns about effects to execution quality, such as a potential widening of protected quotes due to the inability to aggregate odd-lots at multiple prices to create a protected quote.

[12] The SEC also requests data analysis to support any such comments.

[13] In his statement supporting the Proposed Rule, Commissioner Roisman also seeks comment on this question, as well as on Rule 611 (the Order Protection Rule) in general. Commissioner Elad L. Roisman, Statement on Proposed Updates to the National Market System for the Collection, Consolidation, and Dissemination of Information With Respect to Quotations for and Transactions in the National Market System Stock (*hereinafter* Roisman Statement), *available at* <https://www.sec.gov/news/public-statement/statement-roisman-infrastructure-2020-02-14>.

[14] The SEC notes, for example, that a small number of one share orders for a stock at an away price between \$0.00 - \$50.00 would not count as a reported price level.

[15] See proposed “core data” definition described above.

[16] For example, the LULD Plan requires primary listing exchanges to provide certain auction information for the SIP data related to reopening auctions after LULD trading pauses.

[17] The SEC cited a market participant’s statement from the 2018 Roundtable on Market Data and Market Access that institutional traders use auction imbalance data to trade.

[18] The SEC notes that passive strategies and ETFs often track the performance of a benchmark index, and the closing price used in the benchmark index calculation is often set during the closing auction.

[19] “Regulatory data” would include (i) information about Short Sale Circuit Breakers pursuant to Regulation SHO; (ii) LULD data, including trading pauses and reopening notices; (iii) information about market-wide circuit breakers (MWCBs), including trading halt and resumption messages; and (iv) other regulatory data, including opening and closing prices for NMS stocks, indicators for applicable round lot sizes, and other regulatory messages that include sub-penny execution and trade-through exempt indicators.

[20] The Proposed Rule specifies that the NMS plans would designate the exchange that is the “primary listing exchange” for each NMS stock.

[21] See *supra* note 2.

[22] Self-aggregators, however, only must obtain and generate consolidated market data for their own internal use; they could not otherwise re-distribute or disseminate that data (including any subset thereof) to any person, including to any affiliates, subsidiaries, or

customers, unless they register as a competing consolidator.

[23] The SEC, however, proposes to exempt competing consolidators from Section 11A(b)(5) of the Exchange Act, which (i) requires a registered SIP to notify the SEC if it prohibits or limits any person with respect to access to its services; and (ii) allows an aggrieved person to petition the Commission to review a SIP's prohibition or limitation of access. The SEC anticipates competition between consolidators and states its belief that a subscriber that encounters access limitations from a specific consolidator could likely obtain data from another consolidator instead.

[24] Competing consolidators would be required to complete a new Form CC that would be publicly posted on the SEC's website. The information in Form CC would include, among other things, a consolidator's organization and governance details; and a description of its market data products and distribution technology, including connectivity and transmission methods.

[25] Competing consolidators would be designated as an "SCI entity" and become subject to Regulation SCI. Regulation SCI requires market participants such as SROs and SIPs to ensure that key automated systems meet minimum operational requirements related to integrity, resiliency and security, among other things.

[26] A competing consolidator, however, would need to be able to elect to purchase from an SRO only data that would be necessary to create consolidated market data.

[27] Further, exchanges would be required to provide their NMS information at one data dissemination location that is co-located near each exchange's matching engine. This requirement would allow competing consolidators to receive that data at that location at the same speeds and access options as an exchange offers its proprietary market data.

[28] The SEC notes that under the current standard, fees for consolidated SIP data can be shown to be fair and reasonable if they are reasonably related to costs. However, the SEC suggests that it may look to another standard to assure that SRO fees under the decentralized approach are fair and reasonable. In his statement supporting the Proposed Rule, Commissioner Roisman asks whether "reasonably related to costs" would still be the more appropriate way to assess SRO fees. Roisman Statement.

[29] Commissioner Hester M. Peirce, Statement on Proposed Updates to the National Market System for the Collection, Consolidation, and Dissemination of Information With Respect to Quotations for and Transactions in the National Market System Stock, *available at* <https://www.sec.gov/news/public-statement/statement-peirce-infrastructure-2020-02-14>.

[30] The SEC states in the Release that it is not specifying the minimum elements to achieve best execution.

[31] Roisman Statement.