December 1, 2020

VIA EMAIL (tradingandmarkets@sec.gov)

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

> Re: <u>Request for Exemption from Certain Provisions of the National Market System Plan Governing the Consolidated Audit Trail Related to the Online Targeted Query Tool</u>

Dear Ms. Countryman:

The Participants[1] in the National Market System Plan Governing the Consolidated Audit Trail ("CAT NMS Plan" or "Plan")[2] respectfully request that the Securities and Exchange Commission ("Commission" or "SEC") provide exemptive relief pursuant to the Commission's authority under Section 36 of the Securities Exchange Act of 1934 ("Exchange Act")[3] and Rule 608(e) of Regulation NMS under the Exchange Act[4] from certain requirements in the CAT NMS Plan related to the online targeted query tool ("OTQT"). Specifically, the Participants request that the Commission temporarily exempt the Participants from the requirements of: (1) Section 8.1.1 of Appendix D of the CAT NMS Plan regarding the OTQT providing regulatory users the ability to conduct targeted queries with respect to "CAT Reporter correction rate over time" ("Error Correction Time Functionality"); (2) Section 8.1.2 of Appendix D of the CAT NMS Plan regarding the OTQT returning search results within specified time periods ("Search Return Functionality"); and (3) Section 8.1.2 of Appendix D of the CAT NMS Plan regarding the OTQT

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[1]   The twenty-five Participants of the CAT NMS Plan are: BOX Exchange LLC; Cboe BYX Exchange, Inc., Cboe BZX Exchange, Inc., Cboe EDGA Exchange, Inc., Cboe EDGX Exchange, Inc., Cboe C2 Exchange, Inc. and Cboe Exchange, Inc.; Financial Industry Regulatory Authority, Inc.; Investors Exchange LLC; Long-Term Stock Exchange, Inc.; MEMX LLC; Miami International Securities Exchange LLC, MIAX Emerald, LLC, MIAX PEARL, LLC; NASDAQ BX, Inc., Nasdaq GEMX, LLC, Nasdaq ISE, LLC, Nasdaq MRX, LLC, NASDAQ PHLX LLC, The NASDAQ Stock Market LLC; and New York Stock Exchange LLC, NYSE American LLC, NYSE Arca, Inc., NYSE Chicago, Inc., and NYSE National, Inc.

[2]   The Limited Liability Company Agreement of Consolidated Audit Trail, LLC is the CAT NMS Plan. Unless otherwise noted, capitalized terms are used as defined in Rule 613, in the CAT NMS Plan, or in this letter.

[3]   *See* 15 U.S.C. § 78mm(a)(1), which provides, in relevant part, that the "Commission, by rule, regulation, or order, may conditionally or unconditionally exempt any person, security, or transaction, or any class or classes of persons, securities, or transactions, from any provision or provisions of this title or of any rule or regulation thereunder, to the extent that such exemption is necessary or appropriate in the public interest, and is consistent with the protection of investors."

[4]   17 C.F.R. § 242.608(e), which provides that "[t]he Commission may exempt from the provisions of this section, either unconditionally or on specified terms and conditions, any self-regulatory organization, member thereof, or specified security, if the Commission determines that such exemption is consistent with the public interest, the protection of investors, the maintenance of fair and orderly markets and the removal of impediments to, and perfection of the mechanisms of, a national market system."

being able to process 300 simultaneous query requests with no performance degradation ("Simultaneous Query Functionality"). Pursuant to Section 11.6(a)(i)(B) of the Plan, each of the Error Correction Time Functionality, Search Return Functionality and Simultaneous Query Functionality must be in place by December 31, 2020 as part of the "Full Implementation of Core Equity Reporting" Financial Accountability Milestone. This request for exemptive relief amends and replaces in its entirety the request previously submitted to the Commission on November 16, 2020 regarding the Error Correction Time Functionality.[5]

The Participants request that the exemption granted by the Commission with respect to the Error Correction Time Functionality extend until April 30, 2021, to provide the Plan Processor, FINRA CAT, LLC ("FINRA CAT"), with additional time to make such query functionality available as part of the OTQT.[6] The Participants request that the exemption granted by the Commission with respect to the Search Return Functionality and the Simultaneous Query Functionality extend until July 31, 2023, as discussed further below. The Participants believe that the requested exemptions are "necessary or appropriate in the public interest, and consistent with the protection of investors,"[7] and are "consistent with the public interest, the protection of investors, the maintenance of fair and orderly markets and the removal of impediments to, and perfection of the mechanisms of, a national market system."[8]

I   Error Correction Time Functionality

A.   Background

Section 6.10 of the CAT NMS Plan discusses the use of CAT Data by regulators. Subsection (c) of Section 6.10 provides that, consistent with Appendix D, Functionality of the CAT System, the Plan Processor shall provide Participants and the SEC with access to all CAT Data stored in the Central Repository. Regulators are to have access to processed CAT Data through three different methods: (1) OTQT; (2) user-defined direct queries; and (3) bulk extracts.[9] Section 8.1.1 of Appendix D of the CAT NMS Plan discusses the requirements of the OTQT. Specifically, that section states:

> The online targeted query tool will provide authorized users with the ability to retrieve processed and/or validated (unlinked) data via an online query screen that includes the ability to choose from a variety of pre-defined selection criteria. Targeted queries must include date(s) and/or time range(s), as well as one or more

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[5]   *See* Letter from Michael Simon, Chair, CAT NMS Plan Operating Committee to Vanessa Countryman, Secretary, SEC (Nov. 16, 2020).

[6]   "DIVER" and "MIRS" are FINRA CAT's versions of the OTQT. Thus, for purposes of discussion in this letter, the term "OTQT" refers to "DIVER" and "MIRS."

[7]   15 U.S.C. § 78mm(a)(1).

[8]   17 C.F.R. § 242.608(e).

[9]   CAT NMS Plan, Section 6.10(c)(i).

of a variety of fields, including the following: . . . CAT Reporter correction rate over time.[10]

The Participants and SEC staff currently have access to a variety of fields of processed CAT Data and/or validated (unlinked) data via the OTQT. Moreover, by December 2020 the Participants and SEC will have access to information regarding the CAT Reporter correction rate over time for compliance review purposes through the CAT Reporter Portal and/or BDSQL.[11] However, additional time is needed for FINRA CAT to provide regulators with the ability to perform targeted queries on the correction rate of CAT Reporters over time through the OTQT. FINRA CAT will add this functionality to the OTQT by April 30, 2021.

B. Request for Exemption

The Participants request temporary exemptive relief from compliance with the requirement in Section 8.1.1 of Appendix D of the CAT NMS Plan applicable to permitting authorized users to conduct targeted queries through the OTQT with respect to CAT Reporter correction rate over time. As discussed, by December 2020, the Participants and SEC will have access to information regarding the CAT Reporter correction rate over time for compliance review purposes through the CAT Reporter Portal and/or BDSQL, so providing CAT Reporter Error Rates through the OTQT is in many ways duplicative. Providing data regarding the CAT Reporter correction rate through the OTQT in April 2021 would align with the introduction of other functionality releases planned for April 2021 (*i.e.,* releases that will add data for OTQT queries related to the new equity exchange order book and volume concentration using equity exchange data). Accordingly, the OTQT will be able to perform searches with respect to CAT Reporter correction rate over time by no later than April 30, 2021.

II. Search Return Functionality and Simultaneous Query Functionality

A. Background

Section 8.1.2 of Appendix D of the CAT NMS Plan sets forth various performance requirements for OTQT searches,[12] including required timeframes to return results for various types of queries.[13] For instance, for targeted searches, the OTQT must return results within one minute for all trades and related lifecycle events for a specific Customer or CAT Reporter with

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[10]   CAT NMS Plan, Appendix D, Section 8.1.1 at D-25 to D-26.

[11]   The CAT Reporter Portal is a tool that allows CAT Reporters to monitor and manage data submissions to CAT. BDSQL provides the user-defined direct query functionality for the CAT.

[12]   Online targeted query tool searches that include equities and options trade data only in the search criteria must meet minimum requirements, including: (1) returning results within 1 minute for all trades and related lifecycle events for a specific Customer or CAT Reporter with the ability to filter by security and time range for a specified time window up to and including an entire day; (2) returning results within 30 minutes for all trades and related lifecycle events for a specific Customer or CAT Reporter in a specified date range (maximum 1 month); and (3) returning results within 6 hours for all trades and related lifecycle events for a specific Customer or CAT Reporter in

the ability to filter by security and time range for a specified time window up to and including an entire day.[14] Among other things, targeted queries return result sets that are limited to less than one million records, and can be further restricted to processing 5,000 records for display through the OTQT.[15]

Section 8.1.2 of Appendix D of the CAT NMS Plan also sets forth certain requirements regarding the parallel processing of OTQT searches. Specifically, Section 8.1.2 of Appendix D states: "The online targeted query tool must support parallel processing of queries. At a minimum, the online targeted query tool must be able to process up to 300 simultaneous query requests with no performance degradation."[16]

B. "Data Mart" Functionality

The OTQT introduced by the Plan Processor and used by Participant regulatory staff and the SEC is based on a data mart design that allows for queries to be run efficiently against very large datasets. The data mart design has always been a part of the solution provided by FINRA CAT, and has been discussed at length by the Participants and the SEC staff since its adoption. In particular, the OTQT uses a cloud-based data mart that supports multi-day/month/year queries on any field in the CAT and can return all records to the regulatory user for further filtering and analytics. When a regulatory user submits a query, the relevant dataset is scanned to find the specific data being queried. Then, a data mart is created in the CAT environment where further filtering and analysis of the dataset can be performed to return results quickly to the user that submitted the query.[17] For example, if the user requests data for a single symbol during a specified time period on a single trade date, all data for that date and symbol (hundreds of millions of records) must be scanned to locate the specific records requested. A data mart is created to allow the user to analyze the dataset efficiently.

Once a data mart has been created, a regulatory user may perform any number of subsequent filtering and analyses with respect to such data and results are returned to it well within the timeframes set forth in Section 8.1.2 of Appendix D, including the one minute timeframe for targeted searches. With respect to complex queries, for which the CAT NMS Plan provides up to 24 hours of a request for the return of results, the OTQT returns data marts to regulatory users well before such time limits.

However, the Participants recognize that in some instances the amount of time required by the OTQT to populate a data mart is longer than the timeframes set forth in Appendix D of the CAT NMS Plan—particularly the requirement that certain search results be returned within one minute. It typically currently takes up to four minutes for queries for a single day involving equities trades and up to six minutes for options trade queries for a single day for the OTQT to

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[14]   *Id.* at D-27.

[15]   *See id.* (discussing targeted and complex queries).

[16]   *Id.* at D-29.

[17]   When using the data mart functionality, CAT Data does not leave the CAT environment.

create and return a data mart in response to targeted search requests with a required response time of one minute under Section 8.1.2 of Appendix D.[18]

The Participants believe that the data mart technology provides a superior means of assisting Participant regulatory users and the SEC in their regulatory and surveillance efforts. In developing the CAT, the Participants have focused, and continue to focus, on designing and implementing effective and useful regulatory surveillance tools. Notably, the data mart technology underlying the OTQT has been used by FINRA in its surveillance and market oversight operations for approximately five years. It has proven to be an effective and reliable surveillance tool that produces timely results for regulatory use cases.

If the Participants focused on building an OTQT that prioritized speed, the tool would necessarily be much more limited than the current OTQT and less suited for surveillance and regulatory purposes. For instance, an alternative OTQT might be constructed that returns results within the one-minute timeframe set forth in Section 8.1.2 of Appendix D. Such an alternative would be in compliance with the CAT NMS Plan, as discussed above. However, that system would necessarily entail significant limitations on the records that could be returned to a regulatory user, and the query results would therefore be of limited value. Based on their experience, the Participants do not believe that such a system would be of value to regulatory users. In light of these factors, and after careful consideration, including consulting the Plan Processor, the Participants believe that the data mart based OTQT is a much more powerful, useful and reliable regulatory surveillance tool.

The Participants and the Plan Processor have worked, and continue to work, to reduce the time that it takes to populate an OTQT data mart on a consistent basis. For instance, the Plan Processor monitors the system and looks for opportunities to enhance the performance of the OTQT. As part of this monitoring, the Plan Processor runs multiple benchmark queries each day that are designed to measure system performance given CAT Data sets and query usage, including the times to create data marts for various types of queries and responses during simultaneous querying. The results of the benchmark queries are shared with the Participants and SEC staff. Where the Plan Processor identifies areas for potential performance enhancements – whether through adding system capacity or otherwise optimizing the design or operation of the query tools – the Plan Processor discusses these items with the Participants.[19] These efforts have reduced the time required to populate data marts in OTQT. For instance, the Plan Processor introduced enhancements in 2020 that resulted in reducing the time to populate data marts in the following instances: (1) in February 2020, options orders were optimized to reduce the time to produce the data mart by a factor of three to five times; and (2) in November 2020, Industry Member equities events and options events were optimized to reduce the time to produce the data mart by a factor of eight to ten times.

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[18]   Note that a request for related lifecycles makes a query complex.

[19]   SEC staff observers are invited to attend meetings where these issues are discussed.

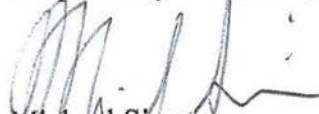   **C.**   **Request for Exemption**

        The Participants request temporary exemptive relief from compliance with the requirements of Section 8.1.2 of Appendix D of the CAT NMS Plan applicable to: (1) returning OTQT search results to regulatory users within the timeframes set forth in Section 8.1.2; and (2) parallel processing up to 300 simultaneous query requests with no performance degradation. The Participants request that the exemption last until July 31, 2023. During the period of the exemption, the Participants and Plan Processor will continue to assess the performance of the OTQT and look for opportunities to further reduce the time that it takes to build the data mart in response to OTQT queries on a consistent basis. The Participants and Plan Processor also will continue to share the results of such assessments with the SEC staff. Prior to the expiration of the exemption period, if necessary, the Participants either will: (1) seek a permanent exemption to the timeframes set forth in Section 8.1.2 of Appendix D or propose to amend the CAT NMS Plan to conform with the response times of the OTQT at that time; or (2) create a more limited OTQT functionality as noted above (although, for the reasons discussed above, the Participants believe, based on current technology, that this would not be an optimal solution and ultimately may not be used by Participants).

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The Participants understand that to the extent that they avail themselves of exemptive relief from a CAT NMS Plan requirement, any exempted requirement shall not be included in the requirements for a particular Financial Accountability Milestone provided that the conditions of the exemption are satisfied.[21]

Thank you for your attention to this matter. Please contact me at (212) 229-2455 if you have any questions or comments.

Respectfully submitted,

Michael Simon
CAT NMS Plan Operating Committee Chair

cc: The Hon. Jay Clayton, Chairman
       The Hon. Hester M. Peirce, Commissioner
       The Hon. Elad L. Roisman, Commissioner
       The Hon. Allison Herren Lee, Commissioner
       The Hon. Caroline A. Crenshaw, Commissioner
       Ms. Manisha Kimmel, Sr. Policy Adviser to Chairman
       Mr. Brett Redfearn, Director, Division of Trading and Markets
       Mr. David S. Shillman, Associate Director, Division of Trading and Markets
       Mr. David Hsu, Assistant Director, Division of Trading and Markets
       CAT NMS Plan Participants

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[21]   *See* Exchange Act Release No. 88890 (May 5, 2020), 85 Fed. Reg 31322, 31335 (May 22, 2020) ("[T]he Commission has the authority to grant exemptive relief from any requirement associated with a particular Financial Accountability Milestone. The Commission believes that this ability, in particular, should alleviate the Participants' concerns regarding the potential impact of unforeseeable or reasonable delays.").