I. Introduction


² 17 CFR 242.608(e).
³ The Commission approved the CAT NMS Plan, as modified, on November 15, 2016. See Securities Exchange Act Release Nos. 79318 (November 15, 2016), 81 FR 84696 (November 23, 2016) (“CAT NMS Plan Approval Order”). The CAT NMS Plan functions as the limited liability company agreement of the jointly owned limited liability
Specifically, the Participants request that the Commission provide temporary exemptive relief from certain requirements of the CAT NMS Plan that relate to the online targeted query tool (“OTQT”) described in Section 6.10(c)(i) of the CAT NMS Plan.4

For the reasons set forth below, this Order grants the Participants’ request for temporary exemptive relief from the above-described provisions of the CAT NMS Plan, subject to certain conditions.

II. Request for Relief

In their letter, the Participants explain that Section 6.10(c)(i) of the CAT NMS Plan requires the Plan Processor5 to provide Participants and the Commission with access to all CAT Data6 stored in the Central Repository7 through three different methods: (1) the OTQT, (2) user-company formed under Delaware state law through which the Participants conduct activities related to the consolidated audit trail (the “Company”).

4 See id. at Appendix D, Section 8.1.1. See also Letter from Michael Simon, CAT NMS Plan Operating Committee Chair, to Vanessa Countryman, Secretary, Commission, dated December 1, 2020, available at https://catnmsplan.com/sites/default/files/2020-12/12.01.20-CAT-Exemption-Request-OTQT.pdf (“Participant Letter”). The Participants state that this exemptive relief request amends and replaces in its entirety the request previously submitted to the Commission on November 16, 2020. See id. at 2 n.5.

5 “Plan Processor” is a defined term under the CAT NMS Plan and means “the Initial Plan Processor or any other Person selected by the Operating Committee pursuant to SEC Rule 613 and Sections 4.3(b)(i) and 6.1, and with regard to the Initial Plan Processor, the Selection Plan, to perform the CAT processing functions required by SEC Rule 613 and set forth in this Agreement.” See CAT NMS Plan, supra note 3 note 3, at Section 1.1.

6 “CAT Data” is a defined term under the CAT NMS Plan and means “data derived from Participant Data, Industry Member Data, SIP Data, and such other data as the Operating Committee may designate as “CAT Data” from time to time.” See id.

7 “Central Repository” is a defined term under the CAT NMS Plan and means “the repository responsible for the receipt, consolidation, and retention of all information reported to the CAT pursuant to SEC Rule 613 and this Agreement.” See id.
defined direct queries, and (3) and bulk extracts. Sections 8.1.1 and 8.1.2 of Appendix D of the CAT NMS Plan set forth certain functionality requirements for the OTQT from which the Participants seek relief.

A. Error Correction Rate Functionality

The Participants state that the OTQT must “provide authorized users with the ability to retrieve CAT Data via an online query screen that includes the ability to choose from a variety of pre-defined selection criteria,” including, among other things, the “CAT Reporter correction rate over time.” The Participants request temporary exemptive relief from compliance with the requirement in Section 8.1.1 of Appendix D of the CAT NMS Plan that authorized users must be able to conduct targeted queries through the OTQT with respect to the CAT Reporter correction rate over time (the “Error Correction Rate Functionality”). The Participants state that the Plan Processor needs additional time to incorporate the Error Correction Rate Functionality to the OTQT. Specifically, the Participants believe that regulators will able to perform searches with respect to the CAT Reporter correction rate over time by April 30, 2021.

---

8 See Participant Letter, supra note 4, at 2; see also CAT NMS Plan, supra note 3, at Section 6.10(c)(i).
9 See CAT NMS Plan, supra note 3, at 6.10(c)(i)(A).
10 See id. at Appendix D, Section 8.1.1. See also Participant Letter, supra note 4, at 2.
11 See Participant Letter, supra note 4, at 2-3. The Participants describe this functionality as “Error Correction Time Functionality,” but the Commission believes that the term “Error Correction Rate Functionality” more accurately describes the functionality.
12 See Participant Letter, supra note 4, at 3.
13 See id. at 3. The Participants note that this schedule would align the release of the Error Correction Rate Functionality with other functionality releases that will add data for OTQT queries concerning “the new equity exchange order book and volume concentration using equity exchange data.” See id. at 3.
therefore request that any exemptive relief granted by the Commission with respect to the Error
Correction Rate Functionality extend until April 30, 2021.14

To support their request, the Participants state that the Participants and the Commission
currently have access to “a variety of fields of processed CAT Data and/or validated (unlinked)
data” via existing Plan Processor tools called DIVER and MIRS.15 The Participants further
represent that, by December 2020, the Participants and the Commission will have access to
information regarding the CAT Reporter correction rate over time for “compliance review
purposes” either through the CAT Reporter Portal or through another existing Plan Processor
tool called BDSQL,16 such that providing the CAT Reporter correction rate over time through
the OTQT would in many ways be duplicative.17

B. Search Return Functionality and Simultaneous Query Functionality

The Participants state that Section 8.1.2 of Appendix D of the CAT NMS Plan sets forth
various performance requirements for OTQT searches. One of these requirements sets forth
timeframes in which results must be returned for various types of queries (“Search Return
Functionality”).18 Another requirement set forth in Section 8.1.2 of Appendix D is that the

---

14 See id. at 2.
15 See id. at 3. The Participants note that “DIVER” and “MIRS” are FINRA CAT’s
versions of the OTQT. See id. at 2 n.6
16 “BDSQL” is the name used by FINRA to describe its proprietary user-defined direct
query tool.
17 See id. at 3.
18 See id. at 3. See also CAT NMS Plan, supra note 3, at Appendix D, Section 8.1.2 (setting
out the following timeframes: (1) “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) “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) “within 6 hours for all
OTQT must “be able to process up to 300 simultaneous query requests with no performance degradation” (“Simultaneous Query Functionality”).

According to the Participant Letter, the OTQT provided by the Plan Processor is based on a data mart model 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.” The Participants state that this model has been used by FINRA in its surveillance and market oversight operations for approximately five years that “has proven to be an effective and reliable surveillance tool that produces timely results for regulatory use cases.”

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 then created which allows a regulatory user to perform any subsequent filtering and analysis. The Participants state that, once a data mart has been created, the results from any subsequent filtering and analysis are returned “well within the timeframes set forth in Section 8.1.2 of Appendix D.” In some instances, however, the Participants acknowledge that the

[19] See Participant Letter, supra note 4, at 4. See also CAT NMS Plan, supra note 3, at Section 8.1.2.
[21] See id. at 4-5.
[22] See id. at 4.
[23] See id.
[24] See id. With respect to complex queries, the Participants state that the OTQT returns data marts to regulatory users “well before” the 24-hour time limit set forth in the CAT NMS Plan. See id.; see also CAT NMS Plan, supra note 3, at Appendix D, Section 8.1.2. However, the Participants also state that “a request for related lifecycles makes a query complex.” See Participant Letter, supra note 4, at 5 n.18. The Commission does not agree that a request for related lifecycles makes a query complex. See Part III infra for
amount of time required by the OTQT to populate a data mart is longer than the timeframes set forth in the CAT NMS Plan. They state, for example, that “[i]t 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 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.”

The Participants therefore request temporary exemptive relief from compliance with the Search Return Functionality and the Simultaneous Query Functionality requirements of Section 8.1.2 of Appendix D of the CAT NMS Plan until July 31, 2023. During the period of the exemption, the Participants assert that they 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.” In this respect, the Participants represent that they have been working with the Plan Processor to reduce the time that it takes to populate an OTQT data mart. They explain that 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

further discussion of the OTQT requirements set forth in the CAT NMS Plan. In addition, and as discussed in Part III infra, the Commission believes that the timeframe for “returning results” in Section 8.1.2 of Appendix D of the CAT NMS Plan begins with the submission of the query in the OTQT and ends with the return of the results of the query to the user inclusive of related linkages.

25 See Participant Letter, supra note 4, at 4.
26 See id. at 4-5.
27 See id. at 6.
28 See id.
29 See id. at 5.
simultaneous querying,” and shares its results with the Participants and the Commission to identify areas for potential performance enhancements.30 The Participant Letter further states that such efforts have already reduced the time required to populate data marts in the OTQT.31

III. Discussion

As the Participants note, Sections 6.10(c) and Appendix D, Section 8.1.1 of the CAT NMS Plan require the OTQT to “provide authorized users with the ability to retrieve CAT Data via an online query screen that includes the ability to choose from a variety of pre-defined selection criteria,”32 including, among other things, the “CAT Reporter correction rate over time” (or, the “Error Correction Rate Functionality”).33 Section 8.1.2 of Appendix D of the CAT NMS Plan further sets forth minimum performance requirements for OTQT searches that include equities and options trade data only in the search criteria, including returning results within the following timeframes: (1) “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) “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) “within 6 hours for all trades and related lifecycle events for a specific Customer or CAT Reporter in a specified date range (maximum 12-month duration from the most recent 24 months).”34

30 See id.
31 See id.
32 See CAT NMS Plan, supra note 3, at 6.10(c)(i)(A).
33 See id. at Appendix D, Section 8.1.1.
34 See id. at Appendix D, Section 8.1.2.
The timeframe for “returning results” in Section 8.1.2 of Appendix D (i.e., the time to “return results” or the “Search Return Functionality”) begins with the submission of the query in the OTQT and ends with the return of the results of the query to the user; it does not begin with the population of a data mart. “Returning results” captures the entirety of the time it takes to generate results in response to the user’s initial query. If the query response time requirements for “returning results” begins at a time later than the time the query was submitted, query response times would fail to fully reflect the total time necessary for the OTQT to generate results, and display them to the user. This would be inconsistent with the plain meaning of the CAT NMS Plan language concerning query response time requirements and would undermine the purpose of the performance standard.

Appendix D, Section 8.1.2 of the CAT NMS Plan sets forth requirements for “related lifecycle events” and “complex queries.” “Related lifecycle events” are covered by the 1 minute, 30 minute, and 6 hour requirements in the CAT NMS Plan set forth above, whereas Appendix D, Section 8.1.2 of the CAT NMS Plan separately provides that “[f]or the complex queries that either scan large volumes of data (e.g., multiple trade dates) or return large result sets (>1M records), the response time must generally be available within 24 hours of the submission of the request.” Under the CAT NMS Plan, therefore, queries for “related lifecycle events” are not.

35 Appendix D, Section 8.1.1 requires that the OTQT “must provide a record count of the result set, the date and time the query request is submitted, and the date and time the result set is provided to the users.” It also requires that the OTQT must “log submitted queries and parameters used in the query, the user ID of the submitter, the date and time of the submission, as well as the delivery of results.” See id. at Appendix D, Section 8.1.1. Since the CAT NMS Plan requires the OTQT to record the date and time the query request is submitted, the query response times set forth in the CAT NMS Plan should be based on this information.

36 See, e.g., note 34 supra.

37 See CAT NMS Plan, supra note 3, at Appendix D, Section 8.1.2.
“complex queries” and thus the 24 hour requirement does not apply. If queries including
“related lifecycle events” were “complex queries,” then any query that included “related
lifecycle events” would be subject to the 24 hour requirement. This is not consistent with the
language of the CAT NMS Plan. Rather, based on the language of the CAT NMS Plan, “related
lifecycle events” are included in, and thus are subject to, the 1 minute, 30 minute, and 6 hour
requirements for OTQT searches that include equities and options trade data only as search
criteria. Interpreting any query that includes “related lifecycle events” as a “complex query”
contradicts the presence of “related lifecycle events” in the CAT NMS Plan language setting
forth the 1 minute, 30 minute, and 6 hour requirements.

Appendix D, Section 8.1.2 also requires that “[t]he online targeted query tool must be
able to process up to 300 simultaneous query requests with no performance degradation” (or, the
“Simultaneous Query Functionality”).38 As stated above, the timeframe for “returning results”
begins with the submission of the query in the OTQT and ends with the return of the results of
the query to the user. The Commission understands that the Participants have not yet determined
the meaning of “performance degradation,” but the Commission believes “performance
degradation” on query requests should be based on the ability of the OTQT to meet the above-
described timeframes set forth by Appendix D, Section 8.1.2 of the CAT NMS Plan.39

Performance degradation is a deterioration in performance as measured according to a certain
standard. The Commission believes it is reasonable to assess “performance degradation” based
on a measurement of performance against the CAT NMS Plan and service level agreement

38 See CAT NMS Plan, supra note 3, at Appendix D, Section 8.1.1.
39 See, e.g., notes 34-37 and associated text supra.
(“SLA”) requirements,\textsuperscript{40} because the Participants are already required to meet these standards. Thus, if the OTQT is able to process up to 300 simultaneous query requests while meeting the CAT NMS Plan and SLA requirements, there would be no “performance degradation.”\textsuperscript{41}

Section 36 of the Exchange Act grants the Commission the authority, with certain limitations, to “conditionally or unconditionally exempt any person, security, or transaction . . . from any provision or provisions of [the Exchange Act] 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.”\textsuperscript{42} Rule 608(e) of Regulation NMS under the Exchange Act authorizes the Commission to exempt, either unconditionally or on specified terms and conditions, any self-regulatory organization, member thereof, or specified security, from the provisions of the rule 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.\textsuperscript{43}

The Commission believes that, pursuant to Section 36 of the Exchange Act, the temporary exemptive relief requested by the Participants is appropriate in the public interest and consistent with the protection of investors, and that, pursuant to Rule 608(e) under the Exchange Act, the temporary exemptive relief requested by the Participants is consistent with the public interest, the protection of investors, the maintenance of fair and orderly markets and the removal of impediments to, and the perfection of the mechanisms of, a national market system. The

\textsuperscript{40} See CAT NMS Plan, supra note 3, at Appendix D, Section 8.5 (requiring the establishment of SLAs for “query performance and response times”).

\textsuperscript{41} The OTQT is required at all times to meet the CAT NMS Plan requirement to process up to 300 simultaneous query requests with no performance degradation.

\textsuperscript{42} 15 U.S.C. 78mm(a)(1).

\textsuperscript{43} 17 CFR 242.608(e).
OTQT is an important regulatory tool required by the CAT NMS Plan; it is one of only three access methods that regulators have to query CAT Data, and it is the only method that can be used by regulatory staff without programming experience to directly access the CAT using tools provided by the Plan Processor. Thus, it is consistent with the public interest, the protection of investors, and the maintenance of fair and orderly markets that all facets of the OTQT are implemented consistent with the CAT NMS Plan. The Commission understands that implementing the above-described functionality will require software development and architectural changes to the existing OTQT. Providing the requested temporary exemptive relief will give the Participants additional time to properly implement the above-described functionality. The Commission believes that the long-term benefits of allowing the Participants sufficient time to correctly implement these facets of the OTQT outweigh any concerns regarding the impact of delayed implementation.

The Commission also believes that providing the requested exemptive relief on the schedule proposed by the Participants is appropriate. With respect to the Error Correction Rate Functionality requirements, the Participants request that temporary exemptive relief be granted until April 30, 2021. This schedule will align the release of the Error Correction Rate Functionality with another planned functionality release, while still providing a certain deadline that will encourage progress towards the implementation of the required OTQT functionality. The Commission believes that such alignment will enable the SROs to leverage planned functionality release activities – including user acceptance testing, documentation, and approvals – for the release of the Error Correction Rate Functionality. Moreover, the

---

44 This release will include, among other things, industry member reporting of new equity exchange order book and volume concentration data and expanded OTQT functionality related to this data. See id. at 3.
Commission believes that granting the requested exemptive relief on the schedule proposed by the Participants would have only a limited impact on regulators’ utilization of the OTQT. As stated in the Participant Letter, the Participants and the Commission currently have access to a variety of fields of processed CAT Data and/or validated (unlinked) data via the OTQT, and information regarding the CAT Reporter correction rate over time will likewise be available for compliance review purposes through the CAT Reporter Portal and/or the Plan Processor’s BDSQL tool by December 2020.

With respect to the Search Return Functionality and the Simultaneous Query Functionality requirements, the Participants request that temporary exemptive relief be granted until July 31, 2023. The Commission believes this deadline will give the Participants and the Plan Processor sufficient time to develop the necessary systems and technology.

The Commission is also conditioning this temporary exemptive relief on the following:

First, as a condition to this exemptive relief, the Participants would be required to satisfy all other requirements of the Full Implementation of Core Equity Reporting Requirements milestone by December 31, 2020.

---

45 See id. at 3.
46 See id. at 3. However, the Error Correction Rate Functionality is still critical, as it will facilitate a regulatory user’s ability to determine the quality of CAT Data for regulatory use (versus compliance review purposes).
47 See note 13 supra. To the extent that the Participants are availing themselves of exemptive relief from a CAT NMS Plan requirement, including requirements relating to Error Correction Rate Functionality, Search Return Functionality, and Simultaneous Query Functionality, such requirement shall not be included in the requirements for the Full Implementation of Core Equity Reporting Requirements milestone, provided that the conditions of the exemption are satisfied. However, to meet the Full Implementation of Core Equity Reporting Requirements milestone, all other functionality required by Section 8.1.1 and Section 8.1.2 of Appendix D of the CAT NMS Plan must incorporate the relevant equities transaction data and be available to Participants and to the
Second, to better enable the Commission to monitor progress towards the reduction of query response times, the Participants would be required, as a condition to this exemptive relief, to perform the following benchmark queries to measure, on a monthly basis, the timeframes in which the OTQT returns results for the following types of queries: (1) all trades and related lifecycle linkages and/or 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) all trades and related lifecycle linkages and/or events for a specific Customer or CAT Reporter in a specified date range (maximum 1 month); and (3) all trades and related lifecycle linkages and/or events for a specific Customer or CAT Reporter in a specified date range (maximum 12-month duration from the most recent 24 months). For each benchmark query, the Participants should provide the average, standard deviation, maximum, and minimum timeframes in which the OTQT returns results, as the Commission believes it is important to capture not only information regarding the average timeframes in which the OTQT returns results, but also information regarding the variability and consistency of the timeframes in which the OTQT returns results. In addition, for each benchmark query, the Participants should use all available CAT Data, including Participant data submitted by FINRA and national securities exchanges, data submitted by Industry Members, and other data. Finally, the Participants should provide monthly reports regarding any actual queries done by regulatory users with the average, standard deviation, maximum, and minimum timeframes in which the OTQT returns results for actual queries. All of the above-described measurements should be provided to the Operating Committee on a Commission. See CAT NMS Plan, supra note 3, at Section 1.1 (“Full Implementation of Core Equity Requirements” definition).

“Industry Member” is a defined term under the CAT NMS Plan and means “means a member of a national securities exchange or a member of a national securities association.” See CAT NMS Plan, supra note 3, at Section 1.1.
monthly basis and should be clearly set forth as factual indicators in the Quarterly Progress Reports required by Section 6.6(c) of the CAT NMS Plan. This condition will permit the Commission and the public to track the Participants’ progress towards meeting the above-described CAT NMS Plan requirements and providing regulators with an effective OTQT by the July 31, 2023 deadline.\footnote{Pursuant to Section 6.6(c)(ii) of the CAT NMS Plan, Quarterly Progress Reports must be filed with the Commission and made publicly available on each SRO’s website or collectively on the CAT NMS Plan website.}

Third, to better enable the Commission to monitor their progress towards meeting the parallel processing requirements of the CAT NMS Plan, the Participants would also be required, as a condition to this exemptive relief, to measure on a monthly basis, using benchmark queries, the time it takes to provide results to users from OTQT searches that are run concurrently with either 50-100, 100-200, or 200-300 queries, and to evaluate whether such results otherwise meet current CAT NMS Plan and SLA performance requirements for targeted and complex queries. These measurements should be provided to the Operating Committee on a monthly basis and should be clearly set forth as factual indicators in the Quarterly Progress Reports required by Section 6.6(c) of the CAT NMS Plan.

IV. Conclusion

Accordingly, IT IS HEREBY ORDERED, pursuant to Section 36(a)(1) of the Exchange Act\footnote{15 U.S.C. 78mm(a)(1).} and Rule 608(e) under the Exchange Act,\footnote{17 CFR 242.608(e).} that the Commission grants the Participants’ request for temporary exemptive relief, as set forth in the Participant Letter and subject to the conditions described herein, from the requirements in Section 8.1.1 of Appendix D of the CAT
NMS Plan with respect to the Error Correction Rate Functionality until April 30, 2021 and from the requirements in Section 8.1.2 of Appendix D of the CAT NMS Plan with respect to the Search Return Functionality and the Simultaneous Query Functionality until July 31, 2023.

By the Commission.

J. Matthew DeLesDernier,
Assistant Secretary