

VIA EMAIL (rule-comments@sec.gov)

July 14, 2021

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

Re: File Number 4-698

Dear Ms. Countryman:

On March 31, 2021, the Operating Committee, on behalf of the Participants¹ in the National Market System Plan Governing the Consolidated Audit Trail² (the “CAT NMS Plan” or “Plan”), filed with the Securities and Exchange Commission (“SEC” or “Commission”) a proposed amendment to the CAT NMS Plan. The SEC published the proposed amendment for comment on April 14, 2021 (“Proposing Release”).³ In the Proposing Release, the Operating Committee proposes to amend the CAT NMS Plan to implement a revised funding model (“Proposed Funding Model”) for the consolidated audit trail (“CAT”) and to establish a fee schedule for Participant CAT fees in accordance with the Proposed Funding Model.⁴ Commenters have submitted nineteen comment letters in response to the Proposing Release.⁵ The Operating Committee submits this letter to respond to certain issues raised in these comment letters.⁶ This letter is divided into two sections. Section I discusses comments related to CAT costs, including the level and transparency of such costs, and Section II addresses comments related to the process for developing the Proposed Funding Model.

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., 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, New York Stock Exchange LLC, NYSE American LLC, NYSE Arca, Inc., NYSE Chicago, Inc. and NYSE National, Inc.

² The CAT NMS Plan is a national market system plan approved by the Commission pursuant to Section 11A of the Exchange Act and the rules and regulations thereunder. *See* Securities Exchange Act Rel. No. 79318 (Nov. 15, 2016), 81 Fed. Reg. 84696 (Nov. 23, 2016) (“CAT NMS Plan Approval Order”). The full text of the CAT NMS Plan is available at www.catnmsplan.com.

³ Securities Exchange Act Rel. No. 91555 (Apr. 14, 2021), 86 Fed. Reg. 21050 (Apr. 21, 2021) (“Proposing Release”).

⁴ Unless otherwise defined herein, capitalized terms are defined as set forth in the CAT NMS Plan.

⁵ The comment letters submitted in response to the Proposing Release are available at <https://www.sec.gov/comments/4-698/4-698-a.htm>. In addition to the nineteen comment letters, the Operating Committee also submitted a letter responding to requests for additional information related to the Proposed Funding Model. Letter from Mike Simon, CAT NMS Plan Operating Committee Chair, to Vanessa Countryman, Secretary, SEC re: File No. 4-698 (May 5, 2021) (“CAT Letter”).

⁶ The Operating Committee, on behalf of the Participants, also is submitting a second comment letter to address certain other issues related to the Proposed Funding Model. Letter from Mike Simon, CAT NMS Plan Operating Committee Chair, to Vanessa Countryman, Secretary, SEC re: File No. 4-698 (July 14, 2021).

I. CAT Costs

A. Level of CAT Costs

Commenters have raised questions regarding the increase in CAT costs from estimates provided in earlier years of the CAT.⁷ The commenters have queried why there has been a significant increase in CAT costs from the estimates provided by bidders in 2014 (*e.g.*, one-time build cost of \$53 million and annual maintenance cost bids of \$51.1 million),⁸ and from the estimate provided in 2017 (\$50.7 million of estimated annual operating costs)⁹ to estimated annual CAT costs of \$132.5 million for 2021.¹⁰ The higher costs stem from a variety of cost drivers for the CAT, the most significant of which are related to storage and computing costs. In the face of these rising costs, the Operating Committee has overseen the implementation of a variety of cost savings measures, and continues to seek additional cost savings to limit the increase in CAT costs. The Operating Committee plans to provide greater clarity and education regarding the cost drivers for CAT to the industry through ongoing webinars and other methods.

The primary cost drivers for the CAT are the data processing and storage costs. The CAT storage and computing costs have increased significantly each year for a variety of reasons. For example, these costs are directly related to data volumes reported to the CAT by CAT Reporters and market data submitted to the CAT, and the markets have been experiencing record high volumes. When first adopted, the CAT NMS Plan contemplated a data volume of more than 58 billion records per day.¹¹ At the end of 2018 in crafting its revised bid to act as the Plan Processor, FINRA CAT, LLC (“FINRA CAT”) estimated a starting volume of 63 billion records per day based on then available data volumes, including data from OATS, the equity and options volumes in the CAT and exchange volumes, with an estimate of 20% annual growth based on industry experience to date. However, the CAT experienced 100% growth volume in 2019 and 2020, resulting in data volumes five times greater than estimated. In 2020, there was an average daily volume of 242 billion events per day, and the first quarter of 2021 had an average daily volume of 282 billion events per day. There was a peak day to date of 445 billion events on one day in March 2021. This has resulted in a corresponding increase in the compute and storage needs of the CAT to address this increased volume.

⁷ See, *e.g.*, Joanna Mallers, Secretary, FIA Principal Traders Group, to Vanessa Countryman, Secretary, SEC re: File No. 4-698 (May 12, 2021) (“FIA Letter 2”) at 4-5; Letter from Michael Lewin, Chief Executive Officer, Istra LLC, to Vanessa Countryman, Secretary, SEC re: File No. 4-698 (May 27, 2021) (“Istra Letter”) at 2; Letter from Kirsten Wegner, Chief Executive Officer, Modern Markets Initiative, to Vanessa Countryman, Secretary, SEC re: File No. 4-698 (May 6, 2021) (“MMI Letter”) at 1-2,4; Letter from William Bartlett, Parallax Volatility Advisers, L.P., to Vanessa Countryman, Secretary, SEC re File No. 4-698 (June 28, 2021) (“Parallax Letter”) at 1-2; Letter from Gunjan Chauhan, Senior Managing Director, Global Head of SPDR Capital Markets, State Street Global Advisors, to Vanessa Countryman, Secretary, SEC re: File No. 4-698 (May 12, 2021) (“State Street Letter”) at 1-2; and Letter from Kevin Donohue, General Counsel, Tower Research Capital LLC, to Vanessa Countryman, Secretary, SEC re: File No. 4-698 (May 12, 2021) (“Tower Research Letter”) at 1-4.

⁸ See Appendix C, Section B.7(b)(i)(B) of the CAT NMS Plan.

⁹ Securities Exchange Act Rel. No. 80930 (June 14, 2017), 82 Fed. Reg. 28180, 28188 (June 20, 2017).

¹⁰ Proposing Release at 21074.

¹¹ Appendix D, Section 1.3 of the CAT NMS Plan at n.262.

In addition, CAT reporting has been introduced via a phased approach, with certain new CAT reporting and functionality being added incrementally to the CAT over time. For example, in 2019, Participants began reporting options data in the CAT format to the CAT, and the Plan Processor released certain CAT query tool functionality. In 2020, Industry Members began reporting Phase 2a and Phase 2b data to the CAT and the Plan Processor began linking data across Industry Members and to Participant data. With the introduction of each new phase, there has been a substantial increase in message traffic, processing complexity and storage requirements.

In addition to message traffic volumes, the complexity of the reporting requirements for the market activity of the CAT Reporters is also a significant cost driver. The Participants and FINRA CAT have worked with Industry Members to draft CAT reporting scenarios that accurately reflect the complexity of Industry Members' market activity. For example, in light of this complexity, the CAT's order reporting and linkage scenarios document for Industry Members is over 600 pages in length, addressing more than 170 scenarios.¹² The processing and storage of such a large number of complex reporting scenarios requires very complex algorithms, which, in turn, leads to significant data processing and storage costs.

The data processing and storage costs also are driven by the stringent performance, timelines and operational requirements for processing CAT Data. For example, the CAT NMS Plan requires that CAT order events be processed within established timeframes to ensure data can be made available to Participants' regulatory staff and the SEC in a timely manner.¹³ Pairing record volumes of CAT Data with such requirements leaves little operational flexibility to decrease costs while still satisfying the requirements.

B. CAT Cost Transparency

Commenters have requested additional transparency regarding the costs of the CAT to better analyze the Proposed Funding Model, arguing that little cost data is publicly available.¹⁴ In contrast to these comments on the Proposing Release, significant cost information about the CAT has been publicly available each year since the SEC approved the CAT, and even more enhanced cost information would be publicly available with the implementation of the Proposed Funding Model. Furthermore, the Operating Committee has provided additional cost-related

¹² See CAT Industry Member Reporting Scenarios (available at www.catnmsplan.com).

¹³ See Appendix D, Section 6 of the CAT NMS Plan.

¹⁴ See, e.g., FIA Letter 2 at 2,5; Letter from Matthew Price, Chief Operations Officer, Fidelity Capital Markets and National Financial Services LLC, to Vanessa Countryman, Secretary, SEC re: File No. 4-698 (May 12, 2021) ("Fidelity Letter") at 3,5; Istra Letter at 2; MMI Letter at 3,4; Letter from Michael Blaugrund, Chief Operating Officer, NYSE, to Vanessa Countryman, Secretary, SEC re: File No. 4-698 (May 10, 2021) ("NYSE Letter") at 2; Parallax Letter at 1-2; Letter from Ellen Greene, Managing Director, Equity and Options Market Structure, SIFMA, to Vanessa Countryman, Secretary, SEC re: File No. 4-698 (May 12, 2021) ("SIFMA Letter") at 4; Letter from James Toes, President and CEO, and Andre D'Amore, Chairman of the Board, Securities Trader Association, to Vanessa Countryman, Secretary, SEC re: File No. 4-698 (June 10, 2021) ("STA Letter") at 3; State Street Letter at 1-2; Tower Research Letter at 2,4,7; and Letter from Thomas M. Merritt, Deputy General Counsel, Virtu Financial, Inc., to Vanessa Countryman, Secretary, SEC re: File No. 4-698 (May 12, 2021) ("Virtu Letter") at 4.

information in its recent letter submitted in response to commenters,¹⁵ and proposes to provide additional cost information to the industry via webinars and other methods.

Under Section 9.2(a) of the CAT NMS Plan, Consolidated Audit Trail LLC is required to prepare “as soon as practicable after the end of each Fiscal Year, a balance sheet, income statement, statement of cash flows and statement of changes in equity for, or as of the end of, such year, audited by an independent public accounting firm.” Section 9.2(a) of the CAT NMS Plan further provides that this “audited balance sheet, income statement, statement of cash flows and statement of changes in equity contemplated by this Section 9.2(a) shall be made publicly available.” In approving this provision of the CAT NMS Plan, the Commission stated that the requirement to make this information publicly available would promote greater “transparency with respect to the Company’s financial accounting.”¹⁶ In accordance with these requirements, the CAT website states in the announcements section that audited financial statements for Consolidated Audit Trail LLC (and its predecessor CAT NMS, LLC) from inception through 2020 are available upon request. The publicly available audited financial statements set forth, among other things, the following categories of costs for the relevant year: technology costs, legal, amortization of developed technology, consulting, insurance, professional and administration, and public relations. Accordingly, substantial annual cost data is currently publicly available and has been since the inception of CAT.

In addition to these publicly available financial statements, the Operating Committee proposes to provide additional cost transparency as part of the Proposed Funding Model. Consolidated Audit Trail LLC will publicly provide the operating budget at the beginning of each year, along with any quarterly budget updates, and the budget sets forth the same list of costs as the financial statements. The Operating Committee will announce at the beginning of the relevant year via a CAT alert the budgeted Total CAT Costs to be used in calculating the Quarterly CAT Fees for that year. In addition, to the extent that the Operating Committee adjusts the budgeted Total CAT Costs for the year during its quarterly budget review, the Operating Committee will announce any such quarterly budget adjustments to be used in calculating the remaining Quarterly CAT Fees for that year via a CAT alert.¹⁷ The annual budgets and budget updates provide cost information for the same categories of expenses as the annual financial statements. Accordingly, with the implementation of the Proposed Funding Model and the provision of the quarterly cost information, substantial, quarterly cost information will be publicly available, in addition to annual financial statements.

C. Cost Management and Due Diligence

Certain commenters have emphasized the need for incentives or other measures to ensure that the Participants operate the CAT in a cost-effective and efficient manner.¹⁸ The Operating Committee has a strong focus on cost management and is significantly incented to keep costs at

¹⁵ See CAT Letter.

¹⁶ CAT NMS Plan Approval Order at 84736.

¹⁷ Proposing Release at 21067-8.

¹⁸ See FIA Letter 2 at 5; Fidelity Letter at 3; and Tower Research Letter at 2,7.

an appropriate level. For example, the Operating Committee employs a Cost Management Working Group, populated by senior members of the Participants, to evaluate and seek to address cost management needs. In addition, the Operating Committee has actively pursued and continues to actively pursue cost savings measures related to compute and storage costs as well as to system architecture and process improvements, among others. For example, the Plan Processor, in consultation with technology experts from the Participants, regularly reviews the compute and storage options that may be used to lower compute and storage needs, including such options as reservations, spot instances, lower cost storage services and data archival policies as well as software architecture and performance improvements. The Plan Processor also makes use of its close working relationship with the CAT technology providers and their experts to seek to provide services in a cost-effective and efficient manner.

D. Covered Costs

Certain commenters believe that the scope of the expenses to be covered by the CAT fees is too broad, and should be limited to direct operating costs. Commenters objected to the proposed recovery of certain CAT costs from Industry Members, including historical costs,¹⁹ Thesys-related costs,²⁰ and third-party expenses, such as legal, consulting and audit expenses.²¹ The recovery of such costs is not only consistent with the CAT NMS Plan and the Exchange Act, but also the policy goals of both.

The SEC considered and rejected similar requests to limit the recoverable CAT costs when it approved the CAT NMS Plan.²² The SEC specifically noted that:

The CAT is a regulatory facility jointly owned by the Participants, and as noted above, the Exchange Act specifically permits the Participants to charge members fees to fund their self-regulatory obligation. The Commission further believes that the proposed funding model is designed to impose fees reasonably related to the Participants' self-regulatory obligations because the fees would be directly associated with the costs of establishing and maintaining the CAT, and not unrelated SRO services.²³

Correspondingly, SEC Rule 613 requires that the Participants discuss “[h]ow the plan sponsors propose to fund the creation, implementation and maintenance of the consolidated audit trail, including the proposed allocation of such estimated costs among the plan sponsors, and between the plan sponsors and members of the plan sponsors.”²⁴ In discussing the adoption of this requirement in Rule 613, the SEC stated that “although the plan sponsors likely would initially

¹⁹ See Letter from Kelvin To, Founder and President, Data Boiler Technologies, LLC, to Vanessa Countryman, Secretary, SEC re: File No. 4-698 (May 3, 2021) (“Data Boiler Letter”) at 8; Istra Letter at 2-3; SIFMA Letter at 6; and Virtu Letter at 5-6.

²⁰ See Data Boiler Letter at 8; Fidelity Letter at 3,5; MMI Letter at 3; SIFMA Letter at 6; Tower Research Letter at 3; and Virtu Letter at 5-6.

²¹ See FIA Letter 2 at 5; SIFMA Letter at 6; and Tower Research Letter at 3.

²² CAT NMS Plan Approval Order at 84793-4.

²³ *Id.* at 84794.

²⁴ Rule 613(a)(1)(vii)(D) of Regulation NMS under the Exchange Act.

incur the costs to establish and fund the central repository directly, they may seek to recover some or all of these costs from their members.”²⁵ Accordingly, the SEC specifically contemplated that the Participants could propose recovering costs incurred in the creation, implementation and maintenance of the Plan. All of the costs at issue here (*e.g.*, third-party costs, historical costs, operational reserve) are expenditures that have been critical to the creation, implementation and maintenance of the Plan. Indeed, the Participants have determined not to seek fees related to a year of costs due to the delay in the implementation of the CAT.²⁶ Accordingly, the Operating Committee continues to believe that the costs enumerated in the Proposing Release should be included in the scope of the CAT fees.

E. Consideration of Decreased Participant Costs related to CAT

Commenters also questioned whether CAT costs subject to the Proposed Funding Model should be decreased to reflect ancillary cost savings or reduced expenses resulting from the implementation of the CAT, such as any cost savings related to the retirement of systems or imposition of fines related to CAT activity.²⁷ The Operating Committee does not intend to reduce CAT fees as a result of ancillary effects of the CAT. Pursuant to the CAT NMS Plan, the proposed CAT fees are intended to cover the actual costs of the creation, implementation and maintenance of the CAT; they are not intended to address other aspects of the Participants’ regulatory obligations and operations.

F. Treatment of Potential Differences between Fees and Costs

One commenter inquired how Participants would address situations in which costs exceed the fees collected or the fees collected exceed the costs, and how such situations would be avoided.²⁸ The Proposed Funding Model is designed to operate on a break-even basis – that is, the fees imposed and collected would be intended to cover CAT costs and an appropriate reserve for CAT costs.²⁹ The Operating Committee would address shortfalls or excess fees through various methods, including updating budgets and operational reserves.

To recover the costs of the CAT going forward, the Operating Committee will use the costs set forth in the annual operating budget as the Total CAT Costs in the calculation of the Participant and Industry Member CAT Fees. The Total CAT Costs budgeted for the upcoming year will be the costs set forth in the annual operating budget for the Company required pursuant to Section 11.1(a) of the CAT NMS Plan. Section 11.1(a) states that “[o]n an annual basis the Operating Committee shall approve an operating budget for the Company. The budget shall include the projected costs of the Company, including the costs of developing and operating the CAT for the upcoming year, and the sources of all revenue to cover such costs, as well as the

²⁵ Securities Exchange Act Rel. No. 67457 (Jul. 18, 2012), 77 Fed. Reg. 45722, 45795 (Aug. 1, 2012).

²⁶ Proposing Release at 21064. The Operating Committee also has proposed to exclude certain costs related to the conclusion of the relationship with Thesys CAT, LLC. *Id.*

²⁷ See FIA Letter 2 at 5; MMI Letter at 5-6; SIFMA Letter at 7; Tower Research Letter at 5; and Virtu Letter at 4.

²⁸ See Fidelity Letter at 5.

²⁹ Appendix C, Section B.7 of the CAT NMS Plan at C-84.

funding of any reserve that the Operating Committee reasonably deems appropriate for prudent operation of the Company.” In addition, to address potential changes in the budget during the year, the total budgeted costs for the CAT for the relevant year may be adjusted on a quarterly basis as the Operating Committee reasonably deems appropriate for the prudent operation of the Company. To the extent that the Operating Committee adjusts the total budgeted costs for the CAT for the relevant year during its quarterly budget review, the adjusted total budgeted costs for the CAT will be used in calculating the remaining quarterly CAT fees for that year. Using budgeted CAT costs, rather than CAT costs already incurred, allows the Consolidated Audit Trail, LLC to collect fees prior to when bills become payable

If, despite the quarterly adjustment of the budgeted CAT costs, the fees exceed the CAT costs, any surplus would be treated as an operational reserve to offset fees in future payments; it would not be distributed to the Participants as profits. This treatment of the surplus fees would be in accordance with Section 11.1(c) of the CAT NMS Plan, which states that “[a]ny surplus of the Company’s revenues over its expenses shall be treated as an operational reserve to offset future fees.” As the Commission noted in approving this provision, it “provides certainty that the Participants’ operation of the CAT will not contribute to the funding of their other operations.” In light of this provision, the surplus would not be directly rebated back to Industry Members.

Alternatively, if the fees are less than the CAT costs, the Operating Committee may address the shortfall by using the operational reserve, including the amount of the shortfall in future fees and/or seeking to recover the costs via other measures in accordance with the Exchange Act.

II. Development Process for the Proposed Funding Model

Certain commenters also have provided comments regarding the development process for the Proposed Funding Model, including comments regarding industry involvement in the development of the Proposed Funding Model, potential conflicts of interest in the fee development process, and industry representation on the Operating Committee. As discussed further below, the Operating Committee disagrees with these comments and believes that the current process for developing the CAT funding model appropriately addresses each of these comments. Moreover, the SEC considered each of these comments in the context of its approval of the CAT NMS Plan, and determined that the processes in place were reasonable and appropriate for the development of the funding model and fees for the CAT.³⁰

The Operating Committee disagrees with the assertion by certain commenters that Industry Members have not had the opportunity to provide substantive input on the Proposed Funding Model.³¹ On the contrary, Industry Members and other market participants have had

³⁰ See, e.g., CAT NMS Plan Approval Order at 84729-30, 84735, 84797.

³¹ See FIA Letter at 2-3; Fidelity Letter at 2-4; Letter from Andrew Stevens, General Counsel, IMC Chicago, LLC, to Vanessa Countryman, Secretary, SEC re: File No. 4-698 (May 20, 2021) (“IMC Letter”) at 2; SIFMA Letter at 2; STA Letter at 2-3; and Tower Research Letter at 7.

and continue to have ample opportunity to provide substantive input into the CAT funding model in various ways, including through the CAT Advisory Committee³² and the public notice and comment processes provided by Rule 608 of Regulation NMS and Section 19 of the Exchange Act.

The Operating Committee also disagrees with the comments regarding Participants' potential conflicts of interest in determining the allocation of fees between Participants and Industry Members.³³ The Plan, as approved by the SEC, adopts various measures to protect against potential conflicts issues raised by the Participants' fee-setting authority, including the fee filing requirements under the Exchange Act and operating the CAT on a break-even basis.³⁴ The Operating Committee believes that these measures address potential conflicts of interest related to CAT fees.

Finally, the Operating Committee continues to disagree with the comments recommending Industry Member representation on the Operating Committee.³⁵ The current governance structure provides Industry Members with the ability to provide meaningful input on CAT matters and it does not compromise the key regulatory and oversight responsibilities related to the CAT, including the SEC and SRO oversight of Industry Members. Moreover, as discussed above, Industry Members have ample opportunity for comment on Plan amendments and fee filings and via their representation by the Advisory Committee, thereby obviating the need for a presence on the Operating Committee.³⁶

³² See Section 4.13 of the CAT NMS Plan.

³³ See Data Boiler Letter at 6,7; FIA Letter 2 at 2,3; MMI Letter at 4; Parallax Letter at 3-4; and Tower Research Letter at 1,5,7

³⁴ See Article VIII of the CAT NMS Plan; and Appendix C, Section B.7 of the CAT NMS Plan.

³⁵ See FIA Letter 2 at 3; Parallax Letter at 2; and Tower Research Letter at 5,7.

³⁶ CAT NMS Plan Approval Order at 84730.

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Respectfully submitted,

A handwritten signature in black ink, appearing to read "Michael Simon". The signature is fluid and cursive, with a small flourish at the end.

Michael Simon
CAT NMS Plan Operating Committee Chair

cc: The Hon. Gary Gensler, Chair
The Hon. Allison Herren Lee, Commissioner
The Hon. Elad L. Roisman, Commissioner
The Hon. Hester M. Peirce, Commissioner
The Hon. Caroline A. Crenshaw, Commissioner
Mr. Hugh Beck, Senior Advisor for Regulatory Reporting
Mr. David Saltiel, Acting 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
Mr. Mark Donohue, Senior Policy Advisor, Division of Trading and Markets
Ms. Erika Berg, Special Counsel, Division of Trading and Markets
CAT NMS Plan Participants