

SUPPORTING STATEMENT
for the Paperwork Reduction Act Information Collection Submission for
the Consolidated Audit Trail NMS Plan (NMS Plan Required to be Filed under
Commission Rule 613)

A. Justification

This submission is being made pursuant to the Paperwork Reduction Act of 1995, 44 U.S.C. Section 3501 et. seq. The collection of information is in connection with an National Market System (NMS) Plan required to be filed with the Commission under Rule 613.

1. Necessity of Information Collection

The Commission believes that the regulatory data infrastructure on which FINRA and the national securities exchanges (the “Participants”) and the Commission currently must rely is generally outdated and inadequate to effectively oversee a complex, dispersed and highly automated national market system. In performing their oversight responsibilities, regulators today must attempt to cobble together disparate data from a variety of existing information systems lacking in completeness, accuracy, accessibility, and/or timeliness—a model that neither supports the efficient aggregation of data from multiple trading venues, nor yields the type of complete and accurate market activity data needed for robust market oversight.

Currently, FINRA and some of the exchanges maintain their own separate audit trail systems for certain segments of this trading activity, which vary in scope, required data elements and format. In performing their market oversight responsibilities, Participant and Commission staffs today must rely heavily on data from these various Participant audit trails. However, there are shortcomings in the completeness, accuracy, accessibility, and timeliness of these existing audit trail systems. Some of these shortcomings are a result of the disparate nature of the systems, which make it impractical, for example, to follow orders through their entire lifecycle as they may be routed, aggregated, re-routed, and disaggregated across multiple markets. The lack of key information in the audit trails that would be useful for regulatory oversight, such as the identity of the customers who originate orders, or even the fact that two sets of orders may have been originated by the same customer, is another shortcoming.

Though Participant and Commission staffs also have access to sources of market activity data other than Participant audit trails, these systems each suffer their own drawbacks. For example, data obtained from the electronic blue sheet system and equity cleared reports comprise only trade executions, and not orders or quotes. In addition, like data from existing audit trails, data from these sources lacks key elements important to regulators, such as the identity of the customer in the case of equity cleared reports. Furthermore, recent experience with implementing incremental improvements to the electronic blue sheet system has illustrated some of the overall limitations of the current technologies and mechanisms used by the industry to collect, record, and make available

market activity data for regulatory purposes.¹

Recognizing these shortcomings, on July 11, 2012, the Commission adopted Rule 613 of Regulation NMS under the Act.² Rule 613 required the Participants to submit an NMS plan to create, implement, and maintain the consolidated audit trail (“CAT”) that would capture customer and order event information for orders in NMS securities, across all markets, from the time of order inception through routing, cancellation, modification, or execution in a single, consolidated data source.³ On February 27, 2015, the Participants submitted the CAT NMS Plan.⁴

The Commission notes that when it adopted Rule 613, it discussed the burden hours associated with the development and submission of the CAT NMS Plan only.⁵ In doing so, the Commission noted that the development and submission of the CAT NMS Plan that would govern the creation, implementation and maintenance of a consolidated audit trail is a multi-step process and accordingly that the Commission was deferring its discussion of the burden hours associated with the other paperwork requirements required

¹ See Securities Exchange Act Release No. 64976 (July 27, 2011), 76 FR 46960 (August 3, 2011) (“Large Trader Release”).

² See Securities Exchange Act Release No. 67457 (July 18, 2012), 77 FR 45721 (August 1, 2012) (“Adopting Release”); see also Securities Exchange Act Release No. 62174 (May 26, 2010), 75 FR 32556 (June 8, 2010) (“Proposing Release”).

³ See 17 CFR 242.613(a)(1), (c)(1), (c)(7).

⁴ See Letter from Participants to Brent J. Fields, Secretary, Commission, dated February 27, 2015. The Participants filed the CAT NMS Plan on September 30, 2014. See Letter from the Participants, to Brent J. Fields, Secretary, Commission, dated September 30, 2014. The CAT NMS Plan filed on February 27, 2015, was an amendment to and replacement of the Initial CAT NMS Plan (the “Amended and Restated CAT NMS Plan”). On December 24, 2015, the Participants submitted an Amendment to the Amended and Restated CAT NMS Plan. See Letter from Participants to Brent J. Fields, Secretary, Commission, dated December 23, 2015 (the “Amendment”). On February 9, 2016, the Participants filed with the Commission an identical, but unmarked, version of the Amended and Restated CAT NMS Plan, dated February 27, 2015, as modified by the Amendment, as well as a copy of the request for proposal issued by the Participants to solicit Bids from parties interested in serving as the Plan Processor for the consolidated audit trail. Unless the context otherwise requires, the “CAT NMS Plan” shall refer to the Amended and Restated CAT NMS Plan, as modified by the Amendment.

⁵ See Adopting Release, *supra* note 2, at 45804. On September 25, 2015, the Commission submitted to OMB a request for approval of an extension of the collection of information related to the development and submission of the CAT NMS Plan. See Submission for OMB Review; Comment Request for Extension of Rule 613; SEC File No. 270-616, OMB Control No. 3235-0671 (September 25, 2015), 80 FR 59209 (October 1, 2015). This submission was approved by OMB on December 21, 2015.

by Rule 613 and ongoing burdens since they would only be incurred if the Commission approves the CAT NMS Plan.⁶

The estimates discussed below are based on the requirements of Rule 613 and take into account the Exemption Order.⁷ Information and estimates contained in the CAT NMS Plan that was submitted by the Participants also informed these estimates because they provide a useful, quantified point of reference regarding potential burdens and costs. The Commission acknowledges that the CAT NMS Plan filed by the Participants contains provisions in addition to those required by the Commission in Rule 613 (e.g., requiring the inclusion of OTC Equity Securities;⁸ the availability of historical data for not less than six years in a manner that is directly available and searchable without manual intervention from the Plan Processor;⁹ a complete symbology database to be maintained by the Plan Processor, including the historical symbology; as well as issue symbol information and data using the listing exchange symbology format¹⁰).

On April 27, 2016, the Commission published a notice soliciting comments from the public.¹¹

⁶ See Adopting Release, *supra* note 2, at 45804.

⁷ The CAT NMS Plan published for comment reflects exemptive relief granted by the Commission that provided the flexibility for the Participants to propose, in the CAT NMS Plan, alternative approaches to certain requirements of Rule 613. See Securities Exchange Act Release No. 77265 (March 1, 2016), 81 FR 11856 (March 7, 2016) (“Exemption Order”).

⁸ See CAT NMS Plan, *supra* note 4, at Section 1.1 (defining “Eligible Security” as all NMS securities and all OTC Equity Securities); Appendix C, Section A.1(a).

⁹ See *id.* at Section 6.5(b)(i).

¹⁰ See *id.* at Appendix C, Section A.1(a); Appendix D, Section 2.

¹¹ See Securities Exchange Act Release No. 77724 (April 27, 2016), 81 FR 30613 (May 17, 2016) (“CAT NMS Plan Notice”). The burdens associated with this CAT NMS Plan Notice will be submitted under OMB number 3235-0671 which relates to Rule 613 - Consolidated Audit Trail-Filing a National Market System Plan. Because these burdens are in addition to the existing burdens and do not seek to change the burdens associated with the submission approved by OMB on December 21, 2015, the supporting statement accompanying the submission for Rule 613 - Consolidated Audit Trail-Filing a National Market System Plan (3235-0671) which was approved by OMB on December 21, 2015 will be submitted to OMB along with this supporting statement.

2. Purposes and Use of the Information Collection

The Commission preliminarily believes that, if approved, the CAT NMS Plan would improve the quality of the data available to regulators in four areas that affect the ultimate effectiveness of core regulatory efforts—completeness, accuracy, accessibility and timeliness.¹² The improvements in these data qualities would substantially improve regulators’ ability to perform analysis and reconstruction of market events, and market analysis and research to inform policy decisions, as well as perform regulatory activities, in particular market surveillance, examinations, investigations, and other enforcement functions.

A. Central Repository

Rule 613 states that the CAT NMS Plan shall provide for the creation and maintenance of a Central Repository.¹³ The Central Repository is required to receive, consolidate and retain the data required to be submitted by the Participants and their broker-dealer members.¹⁴ Participant and Commission staffs would have access to the data for regulatory purposes.¹⁵

B. Data Collection and Reporting

The Commission believes that the data collected and reported to the Central Repository pursuant to the requirements of the CAT NMS Plan (as required by Rule 613) would be used by regulators to monitor and surveil the securities markets and detect and investigate activity, whether on one market or across markets. The data collected and reported to the Central Repository would also be used by regulators for the evaluation of tips and complaints and for complex enforcement inquiries or investigations, as well as inspections and examinations. Further, the Commission believes that regulators would use the data collected and reported to the Central Repository to conduct timely and accurate analysis of market activity for reconstruction of broad-based market events in support of regulatory decisions.

C. Collection and Retention of National Best Bid and National Best Offer Information, Last Sale Data and Transaction Reports

The CAT NMS Plan must require the Central Repository to collect and retain National Best Bid and National Best Offer (“NBBO”) information, transaction reports, and Last Sale Reports in a format compatible with the order and event information

¹² See Adopting Release, supra note 2, at 45727 (discussing four “qualities” of trade and order data that impact the effectiveness of core Participant and Commission regulatory efforts: accuracy, completeness, accessibility, and timeliness).

¹³ See 17 CFR 242.613(e)(1).

¹⁴ Id. The Commission notes that the CAT NMS Plan refers to a member of a national securities exchange or of a national securities association as an “Industry Member.” See CAT NMS Plan, supra note 4, at Section 1.1.

¹⁵ See 17 CFR 242.613(e)(2).

collected pursuant to Rule 613(c)(7).¹⁶ Participant and Commission staffs could use this data to easily search across order, NBBO, and transaction databases. The Commission believes that having the NBBO information in a uniform electronic format compatible with order and event information would assist Participants in enforcing compliance with federal securities laws, rules, and regulations, as well as their own rules.¹⁷ The Commission also believes that a CAT NMS Plan requiring the Central Repository to collect and retain the transaction reports and Last Sale Reports in a format compatible with the order execution information would aid regulators in monitoring for certain market manipulations.¹⁸

D. Surveillance

The CAT NMS Plan (as required by Rule 613(f)) contains a requirement that the Participants develop and implement a surveillance system, or enhance existing surveillance systems, reasonably designed to make use of the consolidated information in the consolidated audit trail.¹⁹ This requirement is intended to position regulators to make full use of the consolidated audit trail data in order to carry out their regulatory obligations. In addition, because trading and potentially manipulative activities could take place across multiple markets, and the consolidated audit trail data would trace the entire lifecycle of an order from origination to execution or cancellation, new or enhanced surveillance systems may also enable regulators to investigate potentially illegal activity that spans multiple markets more efficiently.

¹⁶ See 17 CFR 242.613(e)(7).

¹⁷ The Commission and Participants use the NBBO to, among other things, evaluate members for compliance with numerous regulatory requirements, such as the duty of best execution or Rule 611 of Regulation NMS. See 17 CFR 242.611; see also, e.g., ISE Rule 1901 and Phlx Rule 1084.

¹⁸ Rules 613(e)(7)(ii) and (iii) require that transaction reports reported pursuant to an effective transaction reporting plan and Last Sale Reports reported pursuant to the OPRA Plan be reported to the Central Repository. This requirement should allow regulators to evaluate certain trading activity. For example, trading patterns of reported and unreported trades may cause Participant or Commission staffs to make further inquiries into the nature of the trading to ensure that the public was receiving accurate and timely information regarding executions and that market participants were continuing to comply with trade reporting obligations under Participant rules. Similarly, patterns in the transactions that are reported and unreported to the consolidated tape could be indicia of market abuse, including failure to obtain best execution for customer orders or possible market manipulation. The Commission and the Participants would be able to review information on trades not reported to the tape to determine whether they should have been reported, whether Section 31 fees should have been paid, and/or whether the trades are part of a manipulative scheme.

¹⁹ See CAT NMS Plan, supra note 4, at Section 6.10(a). See also 17 CFR 242.613(f).

E. Written Assessment of Operation of the Consolidated Audit Trail

Rule 613(b)(6) requires the CAT NMS Plan to require the Participants to provide the Commission a written assessment of the CAT's operation at least every two years, once the CAT NMS Plan is effective.²⁰ The CAT NMS Plan states that the Chief Compliance Officer would oversee the assessment.²¹ These assessments would aid Participant and Commission staffs in understanding and evaluating any deficiencies in the operation of the consolidated audit trail and to propose potential improvements to the CAT NMS Plan. The Commission believes the written assessments would allow Participants and Commission staffs to periodically assess whether such potential improvements would enhance market oversight. Moreover, the Commission believes these assessments would help inform the Commission regarding the likely feasibility, costs, and impact of, and the Participants' approach to, the consolidated audit trail evolving over time.

F. Document on Expansion to Other Securities

Rule 613(i) requires the CAT NMS Plan to require the Participants to jointly provide to the Commission, within six months after the CAT NMS Plan is effective, a document outlining how the Participants could incorporate into the consolidated audit trail information regarding certain products that are not NMS securities.²² A document outlining a possible expansion of the consolidated audit trail could help inform the Commission about the Participants' strategy for potentially accomplishing such an expansion over a reasonable period of time. Moreover, such document would aid the Commission in assessing the feasibility and impact of possible future proposals by the Participants to include such additional securities and transactions in the consolidated audit trail.

3. Consideration Given to Information Technology

Several of the information collections associated with the CAT NMS Plan involve the use of electronic information collection techniques. Rule 613 states that the CAT NMS Plan shall provide for the creation and maintenance of the Central Repository,²³ which is required to receive, consolidate and retain the data required to be submitted electronically by the Participants and their members.²⁴ The CAT NMS Plan requires CAT Reporters to report data to the Central Repository either in a uniform electronic format, or in a manner that would allow the Central Repository to convert the data to a uniform electronic format.²⁵ The CAT NMS Plan also requires the Central Repository to

²⁰ 17 CFR 242.613(b)(6).

²¹ See CAT NMS Plan, supra note 4, at Section 6.6(a)(ii). See also id. at Section 6.6(a)(i).

²² See 17 CFR 242.613(i). See also supra note 8.

²³ See 17 CFR 242.613(e)(1).

²⁴ Id.

²⁵ See CAT NMS Plan, supra note 4, at Appendix C, Section A.1(b).

collect and retain on a current and continuing basis, in a format compatible with the Participant and member data, all data including NBBO information, transaction reports, and Last Sale Reports.²⁶ Additionally, the CAT NMS Plan (as required by Rule 613(f)) also requires that the Participants develop and implement a surveillance system, or enhance existing surveillance systems, reasonably designed to make use of the consolidated information in the consolidated audit trail.²⁷

The Commission believes it is important to require the electronic submission of the information required by Rule 613 to ensure that the CAT can capture in a timely, accurate and accessible manner all of the information necessary to efficiently and effectively monitor cross-market trading activity in today's highly automated and dispersed markets. The Commission believes that, as part of operating their businesses, the Participants are already accustomed to handling large volumes of data and may already have in place electronic trading, routing and reporting systems. Most Participants maintain audit trails that contain the trade and order data that they obtain from their members and each equity and options exchange keeps an audit trail of orders and trades that occur on its market. To improve upon the status quo, the consolidated audit trail would need to impose electronic information collection and reporting requirements. The CAT NMS Plan states, "... each equities and options exchange is built on its own unique platform, utilizes unique entry protocols and requirements and thus creates uniquely formatted audit trails. The existence of multiple non-integrated audit trails has direct consequences on the accuracy and efficiency of regulatory oversight."²⁸ As trading venues have become more automated, and trading systems have become computerized, trading volumes have increased significantly and trading has become more dispersed across more trading centers and therefore more difficult to monitor and trace. Audit trail data for securities that are traded on multiple venues is fragmented across multiple data sources, with each regulator generally having direct access only to data generated on the trading venues it regulates. The Commission believes that, if approved, the proposed CAT NMS Plan would bring audit trail data related to trading on all venues into the Central Repository where it could be accessed by all regulators.

Commission staff does not believe that improvements in information technology would have any impact on the burdens associated with the proposed CAT NMS Plan (in fact, improvements in information technology may reduce any burdens associated with the Plan), nor that any obstacles exist to reducing such burdens.

4. Duplication

The CAT NMS Plan would require the collection and reporting of certain information that national securities exchanges and national securities associations, as well as their members, already collected and reported pursuant to both Federal Rules and the rules of those exchanges and associations. However, as required by Rule 613, the CAT NMS Plan requires the Participants to collect additional and more detailed information, and to report the information to the Central Repository in a uniform electronic format, or

²⁶ See id. at Section 6.5(a)(ii). See also 17 CFR 242.613(e)(7), (e)(8).

²⁷ See CAT NMS Plan, supra note 4, at Section 6.10(a). See also 17 CFR 242.613(f).

²⁸ See CAT NMS Plan, supra note 4, at Appendix C, Section B.7(b)(ii)(A).

in a manner that would allow the Central Repository to convert the data to a uniform electronic format for consolidation and storage.

In an effort to ensure identification and avoidance of unnecessary duplicative rules and requirements, Rule 613 requires the CAT NMS Plan to discuss a plan to eliminate existing rules and systems (or components thereof) that will be rendered duplicative by the consolidated audit trail, including identification of such rules and systems (or components thereof).²⁹ To the extent that any existing rules or systems related to monitoring quotes, orders, and executions provide information that is not rendered duplicative by the consolidated audit trail, Rule 613 requires an analysis of: (A) whether the collection of such information remains appropriate;³⁰ (B) if still appropriate, whether such information should continue to be separately collected or should instead be incorporated into the consolidated audit trail;³¹ and (C) if no longer appropriate, how the collection of such information could be efficiently terminated; the steps the plan sponsors propose to take to seek Commission approval for the elimination of such rules and systems (or components thereof); and a timetable for such elimination, including a description of how the plan sponsors propose to phase in the consolidated audit trail and phase out such existing rules and systems (or components thereof).³²

In accordance with Rule 613, the CAT NMS Plan provides information regarding when the Participants intend to initiate and conclude identification of: duplicative rules and systems, partially duplicative rules and systems, non-duplicative rules or systems related to monitoring quotes, orders and executions, and the timing of Participant rule and system changes due to any elimination or modification of Commission rules as a result of the implementation of CAT. Further, the Plan discusses when the Participants will file proposed rule changes to implement the rule modifications or deletions and elimination of the relevant rules and systems.³³

5. Effect on Small Entities

The CAT NMS Plan would have an effect on small entities. The CAT NMS Plan requires Participants to enforce compliance by their members with the provisions of Rule 613 and the Plan through self-regulatory organization (“SRO”) rules that require their members to comply with the requirements of Rule 613 and the CAT NMS Plan.³⁴ These rules would apply to all broker-dealers – including those that are small entities. Commission rules generally define a broker-dealer as a small entity for purposes of the Exchange Act and the Regulatory Flexibility Act if the broker-dealer had a total capital of less than \$500,000 on the date in the prior fiscal year as of which its audited financial

²⁹ See Rule 613(a)(1)(ix).

³⁰ See Rule 613(a)(1)(ix)(A).

³¹ See Rule 613(a)(1)(ix)(B).

³² See Rule 613(a)(1)(ix)(C).

³³ See CAT NMS Plan, supra note 4, at Appendix C, Section C.9.

³⁴ The CAT NMS Plan states that the Participants will endeavor to promulgate consistent rules requiring compliance by their members with the provisions of Rule 613 and the Plan. See id. at Section 3.11. See also 17 CFR 242.613(g)(2).

statements were prepared, and it is not affiliated with any person (other than a natural person that is not a small entity).

Thus, small broker-dealers would be responsible for complying with the proposed CAT NMS Plan's requirements for regularly reporting to the Central Repository the required order and transaction data, and would need to either modify their existing order handling and trading systems to comply with the proposed CAT NMS Plan, or rely on outside vendors to provide a functionality that would provide information to the Central Repository.

The Commission notes that some small firms currently may not have systems in place to report audit trail data as they may be exempted from reporting data to FINRA's Order Audit Trail System ("OATS") because they do not engage in activities that would incur OATS reporting obligations, or they may be excluded or exempted under FINRA's OATS reporting rules. Small firms currently excluded from OATS reporting due to their size would have CAT reporting responsibilities under the Plan because the Plan makes no provision to exempt or exclude them, as FINRA does with OATS reporting.³⁵

The Commission estimates that as of December 2015, there were approximately 1,234 Commission-registered broker-dealers that would be considered small entities for purposes of the statute. Each of these brokers-dealers, assuming that they would be subject to CAT reporting obligations, would be required to comply with the CAT NMS Plan required under Rule 613.³⁶

To minimize the burden of complying with the collecting and reporting requirements in the CAT NMS Plan, the CAT NMS Plan provides that small broker-dealers must begin reporting data to the Central Repository within three years of approval of the CAT NMS Plan, while large broker-dealers must begin reporting such data within two years of approval.³⁷ Thus, small broker-dealers would be given additional time to

³⁵ See FINRA Rule 7470 (Exemption to the Order Recording and Data Transmission Requirements). The Rule provides that, for good cause shown, FINRA may exempt a member from its recording and reporting requirements if: (1) the member and current control affiliates and associated persons of the member have not been subject within the last five years to any final disciplinary action, and within the last ten years to any disciplinary action involving fraud; (2) the member has annual revenues of less than \$2 million; (3) the member does not conduct any market making activities in NMS stock or OTC securities; (4) the member does not execute principal transactions with its customers; and (5) the member does not conduct clearing or carrying activities for other firms. This authority sunsets on July 10, 2019. Approximately 786 firms that are excluded or exempt from OATS would incur CAT reporting obligations if the Plan were approved.

³⁶ The Commission understands that some registered broker-dealers either trade in asset classes not currently included in the definition of Eligible Security or do not trade at all (e.g., broker-dealers for the purposes of underwriting, advising, private placements).

³⁷ See CAT NMS Plan, *supra* note 4, at Section 6.4; see also 17 CFR 242.613(a)(3)(v) and (vi).

ready themselves for compliance with the collection and reporting requirements in the CAT NMS Plan.

6. Consequences of Not Conducting Collections

If the Commission were to not require the collections (or were to require the collections on a less frequent basis), the Commission believes that this could impact its objective to create a comprehensive consolidated audit trail that allows regulators to efficiently and accurately track all activity throughout the U.S. markets in National Market System (NMS) securities. The Commission believes the collections would improve the completeness, accuracy, accessibility and timeliness of data available to regulators and therefore improve regulators' ability to perform regulatory activities, in particular market surveillance, examinations, investigations, and other enforcement functions, as well as analysis and reconstruction of market events, and market analysis and research to inform policy decisions. Regulators depend on data for many of these activities and the improvements in the data qualities would thus improve the efficiency and effectiveness of such regulatory activities.

7. Inconsistencies with Guidelines in 5 CFR 1320.5(d)(2)

The information collection "Data Collection and Reporting" would require respondents to record and report information to the Central Repository information more frequently than quarterly;³⁸ specifically, certain information must be recorded contemporaneously with a Reportable Event and reported to the Central Repository by 8:00 a.m. ET on the trading day following the day such information has been recorded by a Participant or broker-dealer industry member,³⁹ and other information must be reported by 8:00 a.m. ET on the trading day following the day a broker-dealer member receives such information.⁴⁰

In addition, the "Data Collection and Reporting" information collection would require respondents to submit confidential information to the Central Repository, such as the terms of an order,⁴¹ customer account information,⁴² and information sufficient to identify a customer.⁴³ Relatedly, the information collection requirement that the Participants develop and implement new surveillance systems, or enhance existing

³⁸ The CAT NMS Plan did not provide an estimated frequency of reporting for Participants and broker-dealers.

³⁹ See 17 CFR 242.613(c)(3); see also CAT NMS Plan, supra note 4, at Section 6.3(b), Section 6.4(b).

⁴⁰ See 17 CFR 242.613(c)(4); see also CAT NMS Plan, supra note 4, at Section 6.4(b).

⁴¹ See 17 CFR 242.613(c)(7); see also CAT NMS Plan, supra note 4, at Section 6.3(d), Section 6.4(d).

⁴² See 17 CFR 242.613(c)(7)(viii)(B); see also CAT NMS Plan, supra note 4, at Appendix C, Section A.1(A)(iii).

⁴³ See 17 CFR 242.613(c)(7)(viii)(A); see also CAT NMS Plan, supra note 4, at Section 6.4(ii)(A)(C).

surveillance systems, reasonably designed to make use of consolidated audit trail information⁴⁴ is intended to enable Participants to better monitor trading through use of this confidential information. As described in Item 10 below, Rule 613 includes requirements that the CAT NMS Plan must contain to protect the confidentiality of this information⁴⁵ and these requirements are detailed in the CAT NMS Plan.⁴⁶

The Commission notes that the information collection “Written Assessment of the Operation of the Consolidated Audit Trail” would likely contain confidential information concerning any deficiencies of the Consolidated Audit Trail and a plan for improvements. Rule 613(b)(6) provides that the CAT NMS Plan must require the Participants to submit to the Commission the written assessment at least every two years once the Plan is effective.⁴⁷ To the extent that the Commission receives confidential information pursuant to the CAT NMS Plan, such information will be kept confidential, subject to the provisions of applicable law.

8. Consultations Outside the Agency

The Commission has issued a notice soliciting comment on the new “collection of information” requirements and associated paperwork burdens. A copy of the notice is attached. Comments on Commission releases are generally received from registrants, investors, and other market participants. In addition, the Commission and staff participate in ongoing dialogue with representatives of various market participants through public conferences, meetings and informal exchanges. Any comments received on this Notice will be posted on the Commission’s public website, and made available through <https://www.sec.gov/comments/4-698/4-698.shtml>. The Commission will consider all comments received in deciding whether to approve the CAT NMS Plan, and if it decides to approve the CAT NMS Plan, will respond to comments in the approval order.

9. Payment or Gift

Not applicable. The Commission has not provided any payment or gift to the respondents.

10. Confidentiality

The Commission believes that the CAT NMS Plan would require the collection and reporting of confidential information, including Personally Identifiable Information⁴⁸

⁴⁴ See 17 CFR 242.613(f).

⁴⁵ See 17 CFR 242.613(a)(1)(iv), 613(b)(6), 613(e)(4)(i), 613(e)(4)(i)(A).

⁴⁶ See CAT NMS Plan, *supra* note 4, at Section 6.1(b), Section 6.2(b), Section 6.5(f)(i), Section 6.5(iv), Section 6.9, Section 6.12, Appendix D, Section 4.

⁴⁷ See 17 CFR 242.613(b)(6); see also CAT NMS Plan, *supra* note 4, at Section 6.6(a)(i).

⁴⁸ The term “Personally Identifiable Information” refers to information which can be used to distinguish or trace an individual’s identity, such as their name, social security number, biometric records, etc. alone, or when combined with other

(“PII”), to identify customers. The CAT NMS Plan contains several provisions that provide respondents with assurances that confidential information would be protected.

Rule 613 requires the CAT NMS Plan to contain several provisions relating to the security of the information. Specifically, Rule 613(a)(1)(iv) requires the Participants to discuss the security and confidentiality of the information reported to the Central Repository in the Plan.⁴⁹ Rule 613(b)(6) provides that the Plan must include a provision requiring the Participants to provide to the Commission, at least every two years after effectiveness of the national market system plan, a written assessment of the operation of the consolidated audit trail, which would include an evaluation of the performance of the consolidated audit trail’s system security.⁵⁰ Rule 613(e)(4)(i) also requires that the Plan include policies and procedures, including standards, to be used by the CAT Plan Processor to ensure the security and confidentiality of all information reported to the Central Repository.⁵¹ The plan sponsors, and employees of the plan sponsors and Central Repository, would be required to agree to use appropriate safeguards to ensure the confidentiality of such data.⁵² Further, Rule 613 requires that the CAT NMS Plan require that audit trail data may not be used by the Participants other than for surveillance or other regulatory purposes.⁵³

The CAT NMS Plan provides that the CAT Plan Processor is responsible for the security and confidentiality of all CAT Data received and reported to the Central Repository, including during all communications between CAT Reporters and the Plan Processor, data extraction, data manipulation and transformation, loading to and from the Central Repository, and data maintenance by the Central Repository.⁵⁴ The Plan Processor must, among other things, require that individuals with access to the Central Repository agree to use CAT Data only for appropriate surveillance and regulatory activities and to employ safeguards to protect the confidentiality of CAT Data.⁵⁵

In addition, the Plan Processor must develop a comprehensive information security program, as well as a training program that addresses the security and confidentiality of all information accessible from the consolidated audit trail and the operational risks associated with accessing the Central Repository.⁵⁶ The Plan Processor must also designate one of its employees as the Chief Information Security Officer; among other things, the Chief Information Security Officer is responsible for creating and

personal or identifying information which is linked or linkable to a specific individual, such as date and place of birth, mother’s maiden name, etc.

⁴⁹ 17 CFR 242.613(a)(1)(iv).

⁵⁰ 17 CFR 242.613(b)(6).

⁵¹ 17 CFR 242.613(e)(4)(i).

⁵² 17 CFR 242.613(e)(4)(i)(A).

⁵³ Id.

⁵⁴ See CAT NMS Plan, supra note 4, at Section 6.5(f)(i), (iv).

⁵⁵ Id. at Section 6.5(f)(i).

⁵⁶ Id. at Sections 6.1(m), 6.12.

enforcing appropriate policies, procedures, and control structures regarding data security.⁵⁷ The Technical Specifications, which the Plan Processor must publish, must include a detailed description of the data security standards for the consolidated audit trail.⁵⁸

Appendix D of the CAT NMS Plan sets forth minimum data security requirements for CAT that the Plan Processor must meet.⁵⁹ For example, Appendix D enumerates various connectivity, data transfer, and encryption requirements, such as that the CAT System must have encrypted internet connectivity, CAT Reporters must connect to CAT infrastructure using secure methods such as private lines or virtual private network connections over public lines, CAT Data must be encrypted in flight using industry standard best practices, PII data must be encrypted both at rest and in flight, and CAT Data stored in a public cloud must be encrypted at rest.⁶⁰ Additional requirements regarding data storage, data access, breach management, and PII data are also specified in Appendix D.⁶¹ Further, the Participants must establish and enforce policies and procedures that ensure the confidentiality of the CAT Data obtained from the Central Repository, limit the use of CAT Data obtained from the Central Repository solely for surveillance and regulatory purposes,⁶² implement effective information barriers between each Participant’s regulatory and non-regulatory staff with regard to CAT Data, and limit access to CAT Data to designated persons.⁶³ However, a Participant may use the Raw Data⁶⁴ it reports to the Central Repository for “commercial or other” purposes if not prohibited by applicable law, rule or regulation.⁶⁵

To the extent that the Commission receives confidential information pursuant to the CAT NMS Plan, such information will be kept confidential, subject to the provisions of applicable law.

11. Sensitive Questions

As noted in Item 10 above, the Commission believes that the CAT NMS Plan would require the collection and reporting of certain PII in order to uniquely identify

⁵⁷ Id. at Section 6.2(b).

⁵⁸ Id. at Section 6.9.

⁵⁹ Id. at Appendix D, Section 4.

⁶⁰ Id. at Appendix D, Section 4.1.1, 4.1.2.

⁶¹ Id. at Appendix D, Section 4.1.3–4.1.6.

⁶² The Commission notes that regulatory purposes includes, among other things, market surveillance, examinations, investigations, and other enforcement functions, analysis and reconstruction of market events, and market analysis and research to inform policy decisions.

⁶³ See CAT NMS Plan, supra note 4, at Section 6.5(f)(ii), (g).

⁶⁴ Raw data is defined as “Participant Data and Industry Member Data that has not been through any validation or otherwise checked by the CAT System.” Id. at Section 1.1.

⁶⁵ Id. at Section 6.5(f)(i).

customers in the consolidated audit trail, but not of the categories of questions of a sensitive nature required to be described in this Item. Specifically, the CAT NMS Plan proposes to require broker-dealers to submit an initial set of Customer information to the Central Repository, including, as applicable, the Firm Designated ID, the Customer's name, address, date of birth, individual tax payer identifier number ("ITIN"/social security number ("SSN"), individual's role in the account (e.g., primary holder, joint holder, guardian, trustee, person with power of attorney) and Legal Entity Identifier ("LEI"), and/or Large Trader Identifier, if applicable.⁶⁶ The Commission believes that the ability to uniquely identify customers is critical to the efficacy and usefulness of the consolidated audit trail, and that only the collection and use of PII will allow such identification.

Currently, only a few data sources, which typically cover only a small portion of order lifecycles, include information regarding customers.⁶⁷ Further, the customer information in these data sources is often incomplete and unreliable and the data is currently only obtainable by regulators making requests to broker-dealers directly. The inclusion of Customer-IDs⁶⁸ in the CAT would significantly improve regulators' surveillance capabilities, including surveillance designed to detect market manipulation and insider trading. Because currently available data do not uniquely identify customers, Participants performing insider trading and manipulation surveillance could be unable to identify some suspicious trading and must undertake multiple steps to request additional information after identifying suspect trades. Further, data available during exams often require regulatory staff to link multiple data sources to analyze customer trading. These linking processes can be labor-intensive and require the use of algorithms that may not link with 100% accuracy. The Commission preliminarily believes that with the CAT, regulators would be able to conduct certain types of exams more efficiently because of the inclusion of Customer-IDs in CAT. The inclusion and expected improvement in the accuracy of customer identifying data could allow regulators to review the activity of specific market participants more efficiently; currently, identifying the activity of a single market participant across the markets is cumbersome and prone to error. This information would be particularly helpful in identifying insider trading, manipulation and other potentially violative activity that depends on the identity of market participants. Customer information could also be helpful to regulators in more efficiently identifying investors who qualify for disgorgement proceeds and in estimating such disgorgement proceeds.

Rule 613 provides that the CAT NMS Plan must require broker-dealers to report "information of sufficient detail to identify the customer" and "customer account information" to the Central Repository for the original receipt or origination of an order. Rule 613 does not require the reporting of SSNs as part of the information to identify a customer; however, as permitted by an exemption granted by the Commission,⁶⁹ the CAT NMS Plan proposes to require the reporting of SSNs, along with other identifying information, by broker-dealers to the Central Repository.⁷⁰ In their request for exemptive relief, the Participants represented that the SROs considered an approach that would have solely utilized account

⁶⁶ Id. at Appendix C, Section A.1(a)(iii).

⁶⁷ The Commission notes that Participant audit trails typically do not provide customer information.

⁶⁸ Rule 613 requires the use of a unique Customer-ID that identifies the Customer involved in CAT Reportable Events. Pursuant to the Plan, the Customer-ID would be generated from the Firm Designated ID, and the Plan Processor would create a unique Customer-ID that would be consistent across a Customer's activity regardless of the originating broker-dealer. See Rule 613(c)(7); see also CAT NMS Plan, supra note 4, at Appendix D, Section 3.

⁶⁹ See Exemption Order, supra note 7.

⁷⁰ See CAT NMS Plan, supra note 4, at Appendix C, Section A.1(a)(iii).

numbers, rather than account numbers and other unique identifying information, such as SSNs.⁷¹ The SROs concluded that relying solely on account numbers may raise issues regarding duplicate numbers under certain circumstances, and represented that the approach proposed was preferable.⁷² Rule 613 and the CAT NMS Plan include requirements for enhanced safeguards with respect to the privacy and confidentiality of consolidated audit trail data, including customer information. Further, although Rule 613 does not require the reporting of SSNs, and that this information would not be reported by broker-dealers to the Commission, the Commission will establish appropriate secure protections within the agency to help ensure the confidentiality of the records proposed to be accessible to the Commission pursuant to the Rule.

The Commission notes that, at the earliest, broker-dealers would be required to report data, including customer information, in November 2018. Pursuant to Rule 608(b)(2), the Commission shall approve a proposed NMS plan that it finds is necessary or appropriate in the public interest, for the protection of investors and the maintenance of fair and orderly markets, to remove impediments to, and perfect the mechanisms of, a national market system, or otherwise in furtherance of the purposes of the Act, within 180 days of publication of a notice of a proposed NMS Plan.⁷³ A notice of the CAT NMS Plan was published in the Federal Register on May 17, 2016. Broker-dealers are required to begin reporting data, including customer information, to the Central Repository within two years of approval of the CAT NMS Plan.⁷⁴ In accordance with these dates, broker-dealers will be required to report data including PII in November 2018.

To the extent required, the Commission will develop a Systems of Records Notice (“SORN”) and conduct a Privacy Impact Assessment.

12. Burden of Information Collection

Rule 613 applies to the 20 Participants (the 19 national securities exchanges and the one national securities association (FINRA)) currently registered with the Commission.⁷⁵ The Commission believes that Rule 613 applies to 1,800 broker-dealers.⁷⁶

⁷¹ See Letter from Robert Colby, FINRA, on behalf of the Participants, to Brent J. Fields, Secretary, Commission, dated January 30, 2015, at 21.

⁷² Id.

⁷³ 17 CFR 242.608(b)(2).

⁷⁴ 17 CFR 242.613(a)(3)(v).

⁷⁵ The Participants are: BATS Exchange, Inc., BATS-Y Exchange, Inc., BOX Options Exchange LLC, C2 Options Exchange, Incorporated, Chicago Board Options Exchange, Incorporated, Chicago Stock Exchange, Inc., EDGA Exchange, Inc., EDGX Exchange, Inc., Financial Industry Regulatory Authority, Inc., International Securities Exchange, LLC, ISE Gemini, LLC, ISE Mercury, LLC, Miami International Securities Exchange LLC, NASDAQ OMX BX, Inc., NASDAQ OMX PHLX LLC, The NASDAQ Stock Market LLC, National Stock Exchange, Inc., New York Stock Exchange LLC, NYSE MKT LLC, and NYSE Arca, Inc. The Commission understands that ISE Mercury, LLC will become a Participant in the CAT NMS Plan and thus is accounted for as a Participant for purposes of this Paperwork Reduction Act analysis.

⁷⁶ The Commission understands that there are currently 4,138 broker-dealers; however, not all broker-dealers are expected to have CAT reporting obligations. The Participants report that approximately 1,800 broker-dealers currently quote or execute transactions in NMS Securities, Listed Options or OTC Equity Securities and would likely have CAT reporting obligations. The Commission understands that the remaining 2,338 registered broker-dealers either trade in asset classes not

A. Burden on National Securities Exchanges and National Securities Associations

a. Central Repository

Rule 613 requires the Participants to jointly establish a Central Repository tasked with the receipt, consolidation, and retention of the reported order and execution information. The Participants issued a request for proposal soliciting Bids from entities to act as the consolidated audit trail's Plan Processor.⁷⁷ Bidders were asked to provide total one-year and annual recurring cost estimates to estimate the costs to the Participants for implementing and maintaining the Central Repository.⁷⁸ There are currently three remaining Bidders, any of which could be selected to be the Plan Processor. The Plan Processor would be responsible for building, operating, administering and maintaining the Central Repository.

The Plan's Operating Committee, which consists of one voting representative of each Participant,⁷⁹ would be responsible for the management of the CAT NMS, LLC ("LLC"),⁸⁰ including the Central Repository, acting by majority or Supermajority Vote, depending on the issue. In managing the Central Repository, among other things, the Operating Committee would have the responsibility to authorize the following actions of the LLC: (1) interpreting the Plan;⁸¹ (2) determining appropriate funding-related policies, procedures and practices consistent with Article XI of the CAT NMS Plan;⁸² (3) terminating the Plan Processor; (4) selecting a successor Plan Processor (including establishing a Plan Processor Selection Subcommittee to evaluate and review Bids and make a recommendation to the Operating Committee with respect to the selection of the successor Plan Processor);⁸³ (5) entering into, modifying or terminating any Material Contract;⁸⁴ (6) making any Material Systems Change;⁸⁵ (7) approving the initial Technical Specifications or any Material Amendment to the Technical Specifications

currently included in the definition of Eligible Security or do not trade at all (e.g., broker-dealers for the purposes of underwriting, advising, private placements).

⁷⁷ See supra note 4.

⁷⁸ See CAT NMS Plan, supra note 4, at Appendix C, Section B.7(b)(i)(B). The CAT NMS Plan listed the following as primary drivers of Bid costs: (1) reportable volumes of data ingested into the Central Repository; (2) number of technical environments that would have to be built to report to the Central Repository; (3) likely future rate of increase of reportable volumes; (4) data archival requirements; and (5) user support and/or help desk resource requirements. See id. at Section B.7(b)(i)(B).

⁷⁹ See id. at Section 4.2(a).

⁸⁰ The Participants have proposed to conduct the activities of the CAT through the LLC, a jointly owned limited liability company formed under Delaware state law. The LLC will create, implement and maintain the CAT.

⁸¹ See CAT NMS Plan, supra note 4, at Section 4.3(a)(iii).

⁸² See id. at Section 4.3(a)(vi).

⁸³ See id. at Section 4.3(b)(i).

proposed by the Plan Processor;⁸⁶ (8) amending the Technical Specifications on its own motion;⁸⁷ (9) approving the Plan Processor's appointment or removal of the CCO, CISO, or any Independent Auditor in accordance with Section 6.1(b) of the CAT NMS Plan;⁸⁸ (10) approving any recommendation by the CCO pursuant to Section 6.2(a)(v)(A) of the CAT NMS Plan;⁸⁹ (11) selecting the members of the Advisory Committee;⁹⁰ (12) selecting the Operating Committee chair;⁹¹ and (13) determining to hold an Executive Session of the Operating Committee.⁹²

Additionally, in managing the Central Repository, the Operating Committee would have the responsibility and authority, as appropriate, to: (1) direct the LLC to enter into one or more agreements with the Plan Processor obligating the Plan Processor to perform the functions and duties contemplated by the Plan to be performed by the Plan Processor, as well as such other functions and duties the Operating Committee deems necessary or appropriate;⁹³ (2) appoint as an Officer of the Company the individual who has direct management responsibility for the Plan Processor's performance of its obligations with respect to the CAT;⁹⁴ (3) approve policies, procedures, and control structures related to the CAT System that are consistent with Rule 613(e)(4), Appendix C and Appendix D of the CAT NMS Plan that have been developed and will be implemented by the Plan Processor;⁹⁵ (4) approve any policy, procedure or standard (and any material modification or amendment thereto) applicable primarily to the performance of the Plan Processor's duties as the Plan Processor;⁹⁶ (5) for both the CCO and CISO, render their annual performance reviews and review and approve their compensation;⁹⁷ (6) review the Plan Processor's performance under the Plan at least once each year, or more often than once each year upon the request of two Participants that are not Affiliated Participants;⁹⁸ (7) in conjunction with the Plan Processor, approve and regularly review (and update as necessary) SLAs governing the performance of the Central Repository;⁹⁹ (8) maintain a Compliance Subcommittee for the purpose of aiding

⁸⁴ See id. at Section 4.3(b)(iv).

⁸⁵ See id. at Section 4.3(b)(v).

⁸⁶ See id. at Section 4.3(b)(vi).

⁸⁷ See id. at Section 4.3(b)(vii).

⁸⁸ See id. at Section 4.3(b)(iii).

⁸⁹ See id. at Section 4.3(a)(iv).

⁹⁰ See id. at Section 4.3(a)(ii).

⁹¹ See id. at Section 4.3(a)(i).

⁹² See id. at Section 4.3(a)(v).

⁹³ See id. at Section 6.1(a).

⁹⁴ See id. at Section 4.6(b).

⁹⁵ See id. at Section 6.1(c).

⁹⁶ See id. at Section 6.1(e).

⁹⁷ See id. at Section 6.2(a)(iv) and Section 6.2(b)(iv).

⁹⁸ See id. at Section 6.1(n).

the CCO as necessary;¹⁰⁰ and (9) designate by resolution one or more Subcommittees it deems necessary or desirable in furtherance of the management of the business and affairs of the Company.¹⁰¹

The CAT NMS Plan also proposes to establish a Selection Committee comprised of one Voting Senior Officer from each Participant,¹⁰² which is tasked with the review and evaluation of Bids and the selection of the initial Plan Processor.¹⁰³ The Selection Committee would determine, by Majority Vote, whether Shortlisted Bidders will have the opportunity to revise their Bids.¹⁰⁴ The Selection Committee would review and evaluate all Shortlisted Bids, including any permitted revisions submitted by Shortlisted Bidders, and in doing so, may consult with the Advisory Committee (or the DAG until the Advisory Committee is formed) and such other Persons as the Selection Committee deems appropriate.¹⁰⁵ After receipt of any permitted revisions, the Selection Committee would select the Initial Plan Processor from the Shortlisted Bids in two rounds of voting where each Participant has one vote via its Voting Senior Officer in each round.¹⁰⁶ Following the selection of the Initial Plan Processor, the Participants would file with the Commission a statement identifying the Initial Plan Processor and including the information required by Rule 608.¹⁰⁷

For its initial and ongoing internal burden and cost estimates associated with the management of the Central Repository, the Commission is relying on estimates provided in the CAT NMS Plan for the development of the CAT NMS Plan, which the Participants “have accrued, and will continue to accrue,”¹⁰⁸ and have described in the CAT NMS Plan as “reasonably associated with creating, implementing, and maintaining the CAT upon the Commission’s adoption of the CAT NMS Plan.”¹⁰⁹

The Commission believes that the activities of the Operating Committee and the Selection Committee overlap with those undertaken by the Participants to develop the CAT NMS Plan. The CAT NMS Plan describes the costs incurred by the Participants to develop the CAT NMS Plan as including “staff time contributed by each Participant to, among other things, determine the technological requirements for the Central Repository, develop the RFP, evaluate Bids received, design and collect the data necessary to evaluate costs and other economic impacts, meet with Industry Members to solicit

⁹⁹ See id. at Section 6.1(h).

¹⁰⁰ See id. at Section 4.12(b).

¹⁰¹ See id. at Section 4.12(a).

¹⁰² See id. at Section 5.1(a).

¹⁰³ See id. at Section 5.1.

¹⁰⁴ See id. at Section 5.2(d)(i).

¹⁰⁵ See id. at Section 5.2(d)(ii).

¹⁰⁶ See id. at Section 5.2(e).

¹⁰⁷ See id. at Section 6.7(a)(i).

¹⁰⁸ See id. at Appendix C, Section B.7(b)(iii).

¹⁰⁹ See id.

feedback, and complete the CAT NMS Plan submitted to the Commission for consideration.”¹¹⁰ For the building and management of the Central Repository, the Selection Committee and the Operating Committee would have comparable responsibilities. The Selection Committee would be required to review and evaluate all Shortlisted Bids, including any permitted revisions submitted by Shortlisted Bidders, and then to select the initial Plan Processor from those Bids. As part of its overall management of the Central Repository, the Operating Committee would have responsibility for decisions associated with the technical requirements of the Central Repository.¹¹¹ Furthermore, the Operating Committee would be required to establish a Selection Subcommittee to evaluate Bids received to select a successor Plan Processor,¹¹² and would also be required to authorize the selection of the members of the Advisory Committee,¹¹³ comprising members of the Industry, to advise the Participants on the implementation, operation, and administration of the Central Repository.¹¹⁴ Because the responsibilities of the Operating Committee and the Selection Committee are similar to those described in the CAT NMS Plan for the development of the CAT NMS Plan itself, the Commission believes that it is reasonable to use the CAT NMS Plan estimates as the basis for its burden and cost estimates for the initial and ongoing management of the Central Repository.

As proposed, each Participant would contribute an employee and a substitute for the employee to serve on the Operating Committee that would oversee the Central Repository. Additionally, each Participant would select a Voting Senior Officer to represent the Participant as a member of the Selection Committee responsible for the selection of the Plan Processor of the Central Repository.

The Commission preliminarily estimates that, over the 12-month period after the effectiveness of the CAT NMS Plan within which the Participants would be required to select an initial Plan Processor¹¹⁵ and begin reporting to the Central Repository,¹¹⁶ each Participant would incur an initial internal burden of 720 burden hours associated with the

¹¹⁰ See id.

¹¹¹ For example, the Operating Committee would be required to authorize the following actions of the LLC: entering into, modifying or terminating any Material Contract (see id. at Section 4.3(b)(iv)); making any Material Systems Change (see id. at Section 4.3(b)(v)); amending the Technical Specifications on its own motion (see id. at Section 4.3(b)(vii)); and approving the initial Technical Specifications or any Material Amendment to the Technical Specifications proposed by the Plan Processor (see id. at Section 4.3(b)(vi)). Further, the Operating Committee would be able to approve policies, procedures, and control structures related to the CAT System that are consistent with Rule 613(e)(4), Appendix C and Appendix D of the CAT NMS Plan that have been developed and will be implemented by the Plan Processor (see id. at Section 6.1(c)); and in conjunction with the Plan Processor, approve and regularly review (and update as necessary) SLAs governing the performance of the Central Repository (see id. at Section 6.1(h)).

¹¹² See id. at Section 4.3(b)(i).

¹¹³ See id. at Section 4.3(a)(ii).

¹¹⁴ See id. at Section 4.13(d).

management of the creation of the Central Repository and the selection of the Plan Processor (including filing with the Commission the statement identifying the Initial Plan Processor and including the information required by Rule 608), for an aggregate initial estimate of 14,407 burden hours.¹¹⁷

The Operating Committee would continue to be responsible for the management of the Central Repository. The Commission preliminarily estimates that the Participants would incur an ongoing annual internal burden of 720 burden hours associated with the continued management of the Central Repository, for an aggregate annual estimate of 14,407 burden hours across the Participants.¹¹⁸

¹¹⁵ Rule 613(a)(3)(i) requires the selection of the Plan Processor within 2 months after effectiveness of the CAT NMS Plan. See 17 CFR 242.613(a)(3)(i).

¹¹⁶ Rule 613(a)(3)(iii) requires the Participants to provide to the Central Repository the data required by Rule 613(c) within one year after effectiveness of the CAT NMS Plan. See 17 CFR 242.613(a)(3)(iii).

¹¹⁷ The Commission is basing this estimate on the internal burden estimate provided in the CAT NMS Plan related to the development of the CAT NMS Plan. See CAT NMS Plan, supra note 4, at Appendix C, Section B.7(b)(iii) (stating “...the Participants have accrued, and will continue to accrue, direct costs associated with the development of the CAT NMS Plan. These costs include staff time contributed by each Participant to, among other things, determine the technological requirements for the Central Repository, develop the RFP, evaluate Bids received, design and collect the data necessary to evaluate costs and other economic impacts, meet with Industry Members to solicit feedback, and complete the CAT NMS Plan submitted to the Commission for consideration. The Participants estimate that they have collectively contributed 20 FTEs in the first 30 months of the CAT NMS Plan development process”). The Commission believes the staff time incurred for the development of the CAT NMS Plan would be comparable to the staff time incurred for the activities required of the Operating Committee and the Selection Committee for the creation and management of the Central Repository once the Plan is effective). $(20 \text{ FTEs} / 30 \text{ months}) = 0.667 \text{ FTEs per month}$ for all of the Participants to develop the CAT NMS Plan. Converting this into burden hours, $(0.667 \text{ FTEs}) \times (12 \text{ months}) \times (1,800 \text{ burden hours per year}) = 14,407 \text{ initial burden hours}$ for all of the Participants to develop the CAT NMS Plan. $(14,407 \text{ burden hours for all Participants} / 20 \text{ Participants}) = 720.35$ or roughly 720 initial burden hours for each Participant to develop the CAT NMS Plan.

¹¹⁸ The Commission is basing this estimate on the internal burden estimate provided in the CAT NMS Plan for the development of the CAT NMS Plan. The Commission notes that the CAT NMS Plan describes the internal burden estimate for the development of the CAT NMS Plan as a cost the Participants will continue to accrue; therefore, the Commission preliminarily believes that it is reasonable to use this burden estimate as the basis for its ongoing internal burden estimate for the maintenance of the Central Repository, particularly as the Commission believes the reasons for the staff time incurred for the development of the CAT NMS Plan would be comparable to those of the staff time to be incurred by the Operating Committee and the Selection Committee for the continued management

The Commission estimates that it would take the Participants approximately 19,200 annualized burden hours to create and manage the Central Repository [(720 initial one-time burden hours amortized over three years) + (720 annual ongoing burden hours) = 960 hours) x (20 Participants)].

b. Data Collection and Reporting

Rule 613(c)(1) requires the CAT NMS Plan to provide for an accurate, time-sequenced record of orders beginning with the receipt or origination of an order by a Participant, and further to document the life of the order through the process of routing, modification, cancellation and execution (in whole or in part) of the order.¹¹⁹ Rule 613(c) requires the CAT NMS Plan to impose requirements on Participants to record and report CAT information to the Central Repository in accordance with specified timelines.¹²⁰

Rule 613(c) requires the CAT NMS Plan to require the collection and reporting of some information that Participants already collect to operate their business and are required to maintain in compliance with Section 17(a) of the Exchange Act and Rule 17a-1 thereunder.¹²¹ For instance, the Commission believes that the national securities exchanges keep records pursuant to Section 17(a) of the Exchange Act and Rule 17a-1 thereunder in electronic form, of the receipt of all orders entered into their systems, as well as records of the routing, modification, cancellation, and execution of those orders. However, Rule 613 requires the CAT NMS Plan to require the Participants to collect and report additional and more detailed information, and to report the information to the Central Repository in a uniform electronic format, or in a manner that would allow the Central Repository to convert the data to a uniform electronic format for consolidation and storage.

of the Central Repository. See id. (stating "...the Participants have accrued, and will continue to accrue, direct costs associated with the development of the CAT NMS Plan. These costs include staff time contributed by each Participant to, among other things, determine the technological requirements for the Central Repository, develop the RFP, evaluate Bids received, design and collect the data necessary to evaluate costs and other economic impacts, meet with Industry Members to solicit feedback, and complete the CAT NMS Plan submitted to the Commission for consideration. The Participants estimate that they have collectively contributed 20 FTEs in the first 30 months of the CAT NMS Plan development process"). $(20 \text{ FTEs} / 30 \text{ Participants}) = 0.667 \text{ FTEs per month}$ for all of the Participants to continue management of the Central Repository. Converting this into burden hours, $(0.667 \text{ FTEs}) \times (12 \text{ months}) \times (1,800 \text{ burden hours per year}) = 14,407$ ongoing annual burden hours for all of the Participants to continue management of the Central Repository. $(14,407 \text{ ongoing annual burden hours for all Participants} / 20 \text{ Participants}) = 720.35$ or roughly 720 ongoing annual burden hours for each Participant to continue management of the Central Repository.

¹¹⁹ 17 CFR 242.613(c)(1). See also CAT NMS Plan, supra note 4, at Section 6.3.

¹²⁰ 17 CFR 242.613(c). See also CAT NMS Plan, supra note 4, at Section 6.3.

¹²¹ 15 U.S.C. 78q(a); 17 CFR 240.17a-1.

The CAT NMS Plan provides estimated costs for hardware and software, FTE costs, and third-party providers to be incurred by the Participants to report CAT Data.¹²² For these estimates, the Commission is relying on the estimates provided by the Participants because it believes that the Plan's estimates for Participants to report CAT Data are reliable since all of the Participants provided estimates, and most Participants have experience collecting audit trail data, as well as knowledge of both the requirements of Rule 613 as well as their current business practices.

The Commission notes that throughout this Paperwork Reduction Act analysis, it is categorizing the FTE cost estimates for the Participants, as well as the broker-dealer respondents, that were provided in the CAT NMS Plan as an internal burden. The Commission: (1) divided the FTE cost estimates by a divisor of \$424,350, which is the Commission's estimated average salary for a full-time equivalent employee in the securities industry in a job category associated with regulatory data reporting;¹²³ and then (2) multiplied the quotient by 1,800 (the number of hours a full-time equivalent employee is estimated to work per year).

The CAT NMS Plan provides the following average cost that the Participants would expect to incur to adopt the systems changes needed to comply with the data reporting requirements of the consolidated audit trail: \$10,300,000 in aggregate FTE costs for internal operational, technical/development, and compliance functions.¹²⁴

Based on this estimate provided in the CAT NMS Plan, the Commission preliminarily estimates that the initial internal burden hours to develop and implement the needed systems changes to capture the required information and transmit it to the Central

¹²² Third-party provider costs are generally legal and consulting costs, but may include other outsourcing. The template used by respondents is available at <http://catnmsplan.com/PastEvents/> under the Section titled "6/23/14" at the "Cost Study Working Template" link.

¹²³ See CAT NMS Plan, supra note 4, at Appendix C, Section B.7(b)(ii)(C), at n.192. The Participants represented that the cost per FTE is \$401,440. The \$401,440 figure used in the CAT NMS plan was based on a Programmer Analyst's salary (\$193 per hour) from SIFMA's *Management & Professional Earnings in the Securities Industry 2008*, multiplied by 40 hours per week, then multiplied by 52 weeks per year. The Commission has updated this number to include recent salary data for other job categories associated with regulatory data reporting in the securities industry, using the hour and multiple methodology used by the Commission in its paperwork burden analyses. The Commission is using \$424,350 as its annual cost per FTE for purposes of its cost estimates. The \$424,350 FTE cost = 25% Compliance Manager + 75% Programmer Analyst (0.25) x (\$283 per hour x 1,800 working hours per year) + (0.75) x (\$220 per hour x 1,800 working hours per year). The \$282 per hour figure for a Compliance Manager and the \$220 per hour figure for a Programmer Analyst are from SIFMA's *Management & Professional Earnings in the Securities Industry 2013*, modified by the Commission to account for an 1800-hour work-year and multiplied by 5.35 to account for bonuses, firm size, employee benefits and overhead.

¹²⁴ See CAT NMS Plan, supra note 4, at Appendix C, Section B.7(b)(iii)(B)(2).

Repository in compliance with the Rule for each Participant would be approximately 2,185 burden hours.¹²⁵ Therefore, the Commission preliminarily estimates that, for all Participants, the estimated aggregate one-time burden would be 43,690 hours.¹²⁶

Once a Participant has established the appropriate systems and processes required for collection and transmission of the required information to the Central Repository, the Commission preliminarily estimates that Rule 613 would impose on each Participant ongoing annual burdens associated with, among other things, personnel time to monitor each Participant's reporting of the required data and the maintenance of the systems to report the required data; and implementing changes to trading systems that might result in additional reports to the Central Repository. The CAT NMS Plan provides the following average aggregate cost that the Participants would expect to incur to maintain data reporting systems to be in compliance with Rule 613: \$7,300,000 in anticipated annual FTE costs for operational, technical/development, and compliance functions related to data reporting.¹²⁷ Based on this estimate provided in the CAT NMS Plan, the Commission believes that it would take each Participant 1,548 ongoing burden hours per year¹²⁸ to continue compliance with Rule 613. Therefore, the Commission preliminarily estimates that the estimated aggregate ongoing burden for all Participants would be approximately 30,966 hours.¹²⁹

The Commission estimates that it would take the Participants approximately 45,527 annualized burden hours to adopt and maintain systems changes needed to comply with the data reporting requirements of the consolidated audit trail [(2,185 initial burden hours amortized over three years) + (1,548 ongoing burden hours) x (20 Participants)].

c. Collection and Retention of NBBO, Last Sale Data and Transaction Reports

Rule 613(e)(7) provides that the CAT NMS Plan must require the Central Repository to collect and retain on a current and continuous basis NBBO information for each NMS security, transaction reports reported pursuant to an effective transaction

¹²⁵ $(\$10,300,000 \text{ anticipated initial FTE costs}) / (20 \text{ Participants}) = \$515,000$ in anticipated initial FTE costs per Participant. $(\$515,000 \text{ in anticipated initial FTE costs per Participant}) / (\$424,350 \text{ FTE costs per Participant}) = 1.214$ anticipated FTEs per Participant for the implementation of data reporting. $(1.214 \text{ FTEs}) \times (1,800 \text{ working hours per year}) = 2,184.5$ initial burden hours per Participant to implement CAT Data reporting.

¹²⁶ $43,690 \text{ initial burden hours} = (20 \text{ Participants}) \times (2,184.5 \text{ initial burden hours}).$

¹²⁷ See CAT NMS Plan, *supra* note 4, at Appendix C, Section B.7(b)(iii)(B)(2).

¹²⁸ $(\$7,300,000 \text{ in anticipated Participant annual FTE costs}) / (20 \text{ Participants}) = \$365,000$ in anticipated per Participant annual FTE costs. $(\$365,000 \text{ in anticipated per Participant FTE costs}) / (\$424,350 \text{ FTE cost per Participant}) = 0.86$ anticipated FTEs per Participant. $(0.86 \text{ FTEs}) \times (1,800 \text{ working hours per year}) = 1,548.3$ burden hours per Participant to maintain CAT Data reporting.

¹²⁹ $30,966 \text{ annual burden hours} = (20 \text{ Participants}) \times (1,548.3 \text{ annual burden hours}).$

reporting plan, and Last Sale Reports reported pursuant to the Options Price Reporting Authority (“OPRA”) Plan.¹³⁰

Additionally, the CAT NMS Plan must require the Central Repository to maintain this data in a format compatible with the order and event information consolidated and stored pursuant to Rule 613(c)(7).¹³¹ Further, the CAT NMS Plan must require the Central Repository to retain the information collected pursuant to paragraphs (c)(7) and (e)(7) of Rule 613 for a period of not less than five years in a convenient and usable uniform electronic format that is directly available and searchable electronically without any manual intervention.¹³² The Commission notes that the CAT NMS Plan includes these data as “SIP Data” to be collected by the Central Repository.¹³³ The Commission believes the burden associated with SIP Data is included in the burden to the Participants associated with the implementation and maintenance of the Central Repository.

d. Surveillance

Rule 613(f) provides that the CAT NMS Plan must require that every national securities exchange and national securities association develop and implement a surveillance system, or enhance existing surveillance systems, reasonably designed to make use of the consolidated information contained in the consolidated audit trail. Rule 613(a)(3)(iv) provides that the CAT NMS Plan must require that the surveillance systems be implemented within fourteen months after effectiveness of the CAT NMS Plan.

The CAT NMS Plan states that the estimated total initial FTE cost to the Participants to implement surveillance programs within the Central Repository is \$17,500,000 for operational, technical/development, and compliance staff to be engaged in the creation of surveillance programs.¹³⁴

Based on the estimates provided in the CAT NMS Plan, the Commission preliminarily estimates that the initial internal burden hours to implement new or enhanced surveillance systems reasonably designed to make use of the consolidated audit trail data for each Participant would be approximately 3,711.6 burden hours,¹³⁵ for an aggregate initial burden hour amount of 74,232 burden hours.¹³⁶

¹³⁰ See 17 CFR 242.613(e)(7).

¹³¹ Id.

¹³² See 17 CFR 242.613(e)(8).

¹³³ See CAT NMS Plan, supra note 4, at Section 6.5(a)(ii).

¹³⁴ See id. at Appendix C, Section B.7(b)(iii)(B)(2).

¹³⁵ (\$17,500,000 in anticipated initial FTE costs) / (20 Participants) = \$875,000 in anticipated FTE costs per Participant. (\$875,000 in anticipated initial FTE costs per Participant) / (\$424,350 FTE cost per Participant) = 2.06 anticipated initial FTEs per Participant. (2.06 FTEs) x (1,800 working hours per year) = 3,711.6 initial burden hours per Participant to implement new or enhanced surveillance systems.

¹³⁶ (3,711.6 initial burden hours per Participant to implement new or enhanced surveillance systems) x (20 Participants) = 74,232 aggregate initial burden hours.

The CAT NMS Plan states that the estimated total annual FTE cost associated with the maintenance of surveillance programs for the Participants is \$66,700,000 for internal operational, technical/development, and compliance staff to be engaged in the maintenance of surveillance programs.¹³⁷ Based on the estimates provided in the CAT NMS Plan, the Commission preliminarily estimates that the ongoing internal burden hours to maintain the new or enhanced surveillance systems reasonably designed to make use of the consolidated audit trail data for each Participant would be approximately 14,146 annual burden hours,¹³⁸ for an aggregate annual burden hour amount of 282,920 burden hours.¹³⁹

The Commission estimates that it would take the Participants approximately 307,664 annualized burden hours to develop, implement (or enhance existing) surveillance systems reasonably designed to make use of the consolidated information contained in the consolidated audit trail, and to maintain such systems [(3,711.60 initial burden hours amortized over three years) + (14,146 ongoing burden hours) x (20 Participants)].

e. Written Assessment of Operation of the Consolidated Audit Trail

Rule 613(b)(6) provides that the CAT NMS Plan must require the Participants to provide the Commission a written assessment of the CAT's operation at least every two years, once the CAT NMS Plan is effective.¹⁴⁰ The assessment must address, at a minimum, with respect to the consolidated audit trail: (i) an evaluation of its performance; (ii) a detailed plan for any potential improvements to its performance; (iii) an estimate of the costs associated with any such potential improvements; and (iv) an estimated implementation timeline for any such potential improvements, if applicable.¹⁴¹ Thus, the Participants must, among other things, undertake an analysis of the consolidated audit trail's technological and computer system performance.

The CAT NMS Plan states that the CCO would oversee the assessment required by Rule 613(b)(6), and would allow the Participants to review and comment on the assessment before it is submitted to the Commission.¹⁴² The CCO would be an employee

¹³⁷ See CAT NMS Plan, *supra* note 4, at Appendix C, Section B.7(b)(iii)(B)(2).

¹³⁸ $(\$66,700,000 \text{ in anticipated ongoing FTE costs}) / (20 \text{ Participants}) = \$3,335,000$ in anticipated ongoing FTE costs per Participant. $(\$3,335,000 \text{ in anticipated ongoing FTE costs per Participant}) / (\$424,350 \text{ FTE cost per Participant}) = 7.859$ anticipated FTEs per Participant. $(7.859 \text{ FTEs}) \times (1,800 \text{ working hours per year}) = 14,146.20$ or roughly 14,146 ongoing burden hours per Participant to maintain the new or enhanced surveillance systems.

¹³⁹ $(14,146 \text{ annual burden hours per Participant to maintain new or enhanced surveillance systems}) \times (20 \text{ Participants}) = 282,920$ aggregate annual burden hours.

¹⁴⁰ 17 CFR 242.613(b)(6).

¹⁴¹ Id.

of the Plan Processor and would be compensated by the Plan Processor.¹⁴³ The Commission assumes that the overall cost and associated burden on the Participants to implement and maintain the Central Repository includes both the compensation for the Plan Processor as well as its employees for the implementation and maintenance of the Central Repository.

The Commission preliminarily estimates that it would take each Participant approximately 45 annual burden hours of internal legal, compliance, business operations, and information technology staff time to review and comment on the assessment prepared by the CCO of the operation of the consolidated audit trail as required by Rule 613(b)(6).¹⁴⁴ Therefore, the Commission preliminarily estimates that the ongoing annual burden of submitting a written assessment at least every two years, as required by Rule 613(b)(6), would be 45 ongoing burden hours per Participant, for an estimated aggregate annual ongoing burden of 900 hours.¹⁴⁵

¹⁴² See CAT NMS Plan, supra note 4, at Section 6.6.

¹⁴³ Id. at Section 6.2(a).

¹⁴⁴ The Commission calculated the total estimated burden hours based on a similar formulation used for calculating the total estimated burden hours of Rule 613(i)'s requirement for a document addressing expansion of the CAT to other securities. The Commission assumes that the review and potential revision of the written assessment required by Rule 613(b)(6) would be approximately one-half as burdensome as the document required by Rule 613(i) as the Participants are delegating the responsibility to prepare the written assessment required by Rule 613(b)(6) to the CCO and the Participants would only need to review the written assessment and revise it as necessary. As explained in note 148, infra, to estimate the Rule 613(i) burden, the Commission is applying the internal burden estimate provided in the CAT NMS Plan for Plan development over a 6-month period, and dividing the result in half. See CAT NMS Plan, supra note 4, at Appendix C, Section B.7(b)(iii). To estimate the Rule 613(b)(6) written assessment burden, the Commission is dividing the result further by half. $0.667 \text{ FTEs required for all Participants per month to develop the CAT NMS Plan} = (20 \text{ FTEs} / 30 \text{ months})$. $0.667 \text{ FTEs} \times 6 \text{ months} = 4 \text{ FTEs}$. $4 \text{ FTEs} / 2 = 2 \text{ FTEs}$ needed for all of the Participants to create and submit the Rule 613(i) document. $2 \text{ FTEs} / 2 = 1 \text{ FTE}$ needed for all of the Participants to review and comment on the written assessment. $(1 \text{ FTE} \times 1,800 \text{ working hours per year}) = 1,800 \text{ ongoing annual burden hours per year for all of the Participants to review and comment on the written assessment}$. $(1,800 \text{ burden hours} / 20 \text{ Participants}) = 90 \text{ ongoing annual burden hours per Participant to review and comment on the written assessment prepared by the CCO}$. The Commission notes that this assessment must be filed with the Commission every two years and is providing an annualized estimate of the burden associated with the assessment as required for its Paperwork Reduction Act analysis. To provide an estimate of the annual burden associated with the assessment as required for its Paperwork Reduction Act analysis, Commission is dividing the 90 ongoing burden hours in half (over two years) = 45 ongoing annual burden hours per Participant to review and comment on the written assessment prepared by the CCO.

The Commission estimates that it would take the Participants approximately 900 annualized burden hours to review, comment on, and submit the written assessment to the Commission [(45 ongoing burden hours) x (20 Participants)].

f. Document on Expansion to Other Securities

Rule 613(i) provides that the CAT NMS Plan must require the Participants to jointly provide to the Commission, within six months after the CAT NMS Plan becomes effective, a document outlining how the Participants could incorporate into the consolidated audit trail information regarding: (1) equity securities that are not NMS securities;¹⁴⁶ (2) debt securities; and (3) primary market transactions in equity securities that are not NMS securities and debt securities.¹⁴⁷ The document must also detail the order and Reportable Event data that each market participant may be required to provide, which market participants may be required to provide such data, an implementation timeline, and a cost estimate. Thus, the Participants must, among other things, undertake an analysis of technological and computer system acquisitions and upgrades that would be required to incorporate such an expansion.

The Commission preliminarily estimates that it would take each Participant approximately 180 burden hours of internal legal, compliance, business operations and information technology staff time to create a document addressing expansion of the consolidated audit trail to additional securities as required by Rule 613(i).¹⁴⁸ Therefore, the Commission preliminarily estimates that the one-time initial burden of drafting the

¹⁴⁵ 900 ongoing annual burden hours = (45 ongoing annual burden hours) x (20 Participants).

¹⁴⁶ The CAT NMS Plan would require the inclusion of OTC Equity Securities, while Rule 613 does not include such a requirement. See supra note 8.

¹⁴⁷ See 17 CFR 242.613(i).

¹⁴⁸ The Commission is basing this estimate on the internal burden provided in the CAT NMS Plan related to the development of the CAT NMS Plan. See CAT NMS Plan, supra note 4, at Appendix C, Section B.7(b)(iii) (stating “[t]he Participants estimate that they have collectively contributed 20 FTEs in the first 30 months of the CAT NMS Plan development process”). Because this document is much more limited in scope than the CAT NMS Plan, and because the Commission assumes that in drafting the CAT NMS Plan, the Participants have already contributed time toward considering how the CAT can be expected to be expanded in accordance with Rule 613(i), the Commission is applying the CAT NMS Plan development internal burden over a 6-month period (Rule 613(i) requires this document to be submitted to the Commission within six months after effectiveness of the CAT NMS Plan), divided by half. 0.667 FTEs required for all Participants per month to develop the CAT NMS Plan = (20 FTEs / 30 months). 0.667 FTEs x 6 months = 4 FTEs. 4 FTEs / 2 = 2 FTEs needed for all of the Participants to create and submit the document. 2 FTEs x 1,800 working hours per year = 3,600 burden hours. 3,600 burden hours / 20 Participants = 180 burden hours per Participant to create and file the document.

document required by Rule 613 would be 180 initial burden hours per Participant, for an estimated aggregate initial burden of 3,600 burden hours.¹⁴⁹

The Commission estimates that it would take the Participants approximately 1,200 annualized burden hours to create a document addressing expansion of the consolidated audit trail to additional securities as required by Rule 613(i) [(180 initial burden hours amortized over three years) x (20 Participants)].

B. Burden on Broker-Dealer Members

a. Data Collection and Reporting

Rule 613(c)(1) requires the CAT NMS Plan to provide for an accurate, time-sequenced record of orders beginning with the receipt or origination of an order by a broker-dealer member of a Participant, and further documenting the life of the order through the process of routing, modification, cancellation and execution (in whole or in part) of the order. Rule 613(c) requires the CAT NMS Plan to impose requirements on broker-dealer members to record and report CAT information to the Central Repository in accordance with specified timelines.

The Commission's estimates delineate broker-dealer firms by whether they insource or outsource, or are likely to insource or outsource, CAT Data reporting obligations. The Commission preliminarily believes that firms that currently report high numbers of OATS Reportable Order Events ("ROEs")¹⁵⁰ strategically would decide to either self-report their CAT Data or outsource their CAT Data reporting functions, while the firms with the lowest levels of activity would be unlikely to have the infrastructure and specialized employees necessary to insource CAT Data reporting and would almost certainly outsource their CAT Data reporting functions. The Commission recognizes that more active firms that will likely be CAT Reporters and insource regulatory data reporting functions may not have current OATS reporting obligations because they either are not FINRA members, or because they do not trade in NMS equity securities.¹⁵¹

¹⁴⁹ The initial burden hour estimate is based on: (20 Participants) x (180 initial burden hours to draft the report).

¹⁵⁰ The Commission uses for its estimates the number of OATS ROEs reported by firms that report to OATS. The Commission preliminarily believes that because OATS reportable events, such as order originations, routes, and executions are also CAT Reportable Events, these two measures are likely to be highly correlated, making the number of OATS records a proxy for the anticipated level of CAT reporting. The Commission preliminarily believes that the higher the number of OATS ROEs reported, the higher the anticipated number of CAT records to report. As noted below, however, the Commission anticipates that the number of CAT records would exceed the number of OATS ROEs.

¹⁵¹ The Commission also preliminarily recognizes as discussed above that some broker-dealer firms may strategically choose to outsource despite the Plan's working assumption that these broker-dealers would insource their regulatory data reporting functions.

The Commission preliminarily estimates that there are 126 OATS-reporting Insourcers and 45 non-OATS reporting Insourcers.¹⁵² The Commission’s estimation categorizes the remaining 1,629 broker-dealers that the Plan anticipates would have CAT Data reporting obligations as Outsourcers.¹⁵³

(1) Insourcers

A. Large Non-OATS-Reporting Broker-Dealers

The Commission relies on the Plan’s large broker-dealer FTE estimates in estimating burden hours for large broker-dealers that can practicably decide between insourcing or outsourcing their regulatory data reporting functions.¹⁵⁴ The Commission estimates that there are 14 large broker-dealers that are not OATS reporters currently in the business of electronic liquidity provision that would be classified as Insourcer firms.¹⁵⁵

Additionally, the Commission estimates that there are 31 broker-dealers that may transact in options but not in equities that can be classified as Insourcer firms.¹⁵⁶ These firms may have customer orders and other activity off-exchange that would cause them to incur a CAT reporting obligation. The Commission assumes the 31 options firms and 14 ELPs would be typical of the Plan’s large, non-OATS reporting firms; for these firms, the

¹⁵² These are 126 current OATS reporters that report more than 350,000 OATS ROEs per month; 31 Options Market Making firms; and 14 electronic liquidity providers (“ELPs”).

¹⁵³ These broker-dealers are assumed to already outsource data reporting services.

¹⁵⁴ See CAT NMS Plan, supra note 4, at Appendix C, Section A.6(c).

¹⁵⁵ These broker-dealers are not FINRA members and thus have no regular OATS reporting obligations. The category of Insourcers that do not currently report OATS data includes firms that have multiple SRO memberships that exclude FINRA. This category includes Options Market Makers and at least 14 ELPs; these are firms that carry no customer accounts and directly route proprietary orders to Alternative Trading Systems.

¹⁵⁶ The Commission identified 39 CBOE-member broker-dealers that are not FINRA members, but are members of multiple SROs; eight of these broker-dealers were previously identified as ELPs, leaving 31 firms with multiple SRO memberships that are unlikely to be CBOE floor brokers. These 31 firms are likely to include some ELPs. This methodology implicitly assumes that there are no Options Market Makers that are not members of the CBOE.

Commission relies on the cost estimates provided under Approach 1¹⁵⁷ for large, non-OATS reporting firms in the CAT NMS Plan.

The CAT NMS Plan provides the following average initial FTE count figure that a large non-OATS reporting broker-dealer would expect to incur to adopt the systems changes needed to comply with the data reporting requirements of Rule 613 under Approach 1: 8.05 internal FTEs.¹⁵⁸ Based on this information, the Commission preliminarily estimates that the average initial burden associated with implementing regulatory data reporting to capture the required information and transmit it to the Central Repository in compliance with the Rule for each large, non-OATS reporting broker-dealer would be approximately 14,490 initial burden hours,¹⁵⁹ for an estimated aggregate initial burden of 652,050 hours.¹⁶⁰

Once a large non-OATS reporting broker-dealer has established the appropriate systems and processes required for collection and transmission of the required information to the Central Repository, the Commission preliminarily estimates that the Rule would impose ongoing annual burdens associated with, among other things, personnel time to monitor each large non-OATS reporting broker-dealer's reporting of the required data and the maintenance of the systems to report the required data; and implementing changes to trading systems that might result in additional reports to the Central Repository. The CAT NMS Plan provides the following average ongoing internal FTE count figure that a large non-OATS reporting broker-dealer would expect to incur to maintain data reporting systems to be in compliance with Rule 613: 7.41 internal

¹⁵⁷ See CAT NMS Plan, *supra* note 4, at Appendix C, Section B.7(b)(i)(A)(2). Approach 1 assumes CAT Reporters would submit CAT Data using their choice of industry protocols. Approach 2 assumes CAT Reporters would submit data using a pre-specified format. Approach 1's aggregate costs are higher than those for Approach 2 for all market participants except in one case where service bureaus have lower Approach 1 costs. For purposes of this Paperwork Reduction Act analysis, the Commission is not relying on the estimates for Approach 2 because overall the Approach 1 aggregate estimates represent the higher of the proposed approaches. The Commission believes it would be more comprehensive to use the higher of the two estimates for its Paperwork Reduction Act analysis estimates.

¹⁵⁸ Approach 1 also provided \$3,200,000 in initial internal FTE costs. The Commission believes the \$3,200,000 in internal FTE costs is the Participants' estimated cost of the 8.05 FTEs. (8.05 FTEs) x (\$401,440 Participants' assumed annual cost per FTE provided in the CAT NMS Plan) = \$3,231,592. See CAT NMS Plan, *supra* note 4, at Appendix C, Section B.7(b)(ii)(C), at n. 192. See also *supra* note 123.

¹⁵⁹ 14,490 initial burden hours = (8.05 FTEs for implementing CAT Data reporting systems) x (1,800 working hours per year).

¹⁶⁰ The Commission preliminarily estimates that 45 large non-OATS reporting broker-dealers would be impacted by this information collection. (45 large non-OATS reporting broker-dealers) x (14,490 burden hours) = 652,050 initial burden hours to implement data reporting systems.

FTEs.¹⁶¹ Based on this information, the Commission preliminarily believes that it would take a large non-OATS reporting broker-dealer 13,338 burden hours per year¹⁶² to continue to comply with the Rule, for an estimated aggregate ongoing burden of 600,210 hours.¹⁶³

The Commission estimates that it would take large non-OATS reporting broker-dealers approximately 817,560 annualized burden hours to adopt and maintain systems changes needed to comply with the data reporting requirements of the consolidated audit trail [(14,490 initial burden hours amortized over three years) + (13,338 ongoing burden hours) x (45 large non-OATS reporting broker-dealers)].

B. Large OATS-Reporting Broker-Dealers

The Commission estimates that 126 broker-dealers, which reported more than 350,000 OATS ROEs between June 15 and July 10, 2015, would strategically decide to either self-report CAT Data or outsource their CAT data reporting functions.¹⁶⁴ To conduct its Paperwork Burden Analysis for the 126 broker-dealers, the Commission is relying on the estimates used by the CAT NMS Plan of the expected FTE count that a large OATS-reporting broker-dealer would incur as a result of the implementation of the consolidated audit trail under Approach 1.¹⁶⁵

¹⁶¹ Approach 1 also provided \$3,000,000 in internal FTE costs related to maintenance. The Commission believes the \$3,000,000 in ongoing internal FTE costs is the Participants' estimated cost of the 7.41 FTEs. (7.41 FTEs) x (\$401,440 Participants' assumed annual cost per FTE provided in the CAT NMS Plan) = \$2,974,670. See CAT NMS Plan, supra note 4, at n.192. See also supra note 123.

¹⁶² 13,338 ongoing burden hours = (7.41 ongoing FTEs to maintain CAT data reporting systems) x (1,800 working hours per year).

¹⁶³ The Commission estimates that 45 large non-OATS reporting broker-dealers would be impacted by this information collection. (45 large non-OATS reporting broker-dealers) x (13,338 burden hours) = 600,210 aggregate ongoing burden hours.

¹⁶⁴ The Commission preliminarily believes this decision is strategic and discretionary because FINRA data reveals that while many broker-dealers at these activity levels self-report most or all of their regulatory data, other broker-dealers outsource most or all of their regulatory reporting at these activity levels. At lower activity levels, most, but not all, broker-dealers outsource most if not all of their regulatory data reporting. The Commission is cognizant that some broker-dealers reporting fewer than 350,000 OATS ROEs per month can and do opt to self-report their regulatory data. However, based on conversations with broker-dealers, the Commission preliminarily believes that most broker-dealers at these activity levels do not have the infrastructure and specialized staff that would be required to report directly to the Central Repository, and electing to self-report would be cost-prohibitive in most but not all cases.

¹⁶⁵ See supra note 157.

The CAT NMS Plan provides the following average initial internal FTE count figures that a large OATS-reporting broker-dealer would expect to incur as a result of the implementation of the consolidated audit trail under Approach 1: 14.92 internal FTEs.¹⁶⁶ Based on this information the Commission preliminarily estimates that the average initial burden to develop and implement the needed systems changes to capture the required information and transmit it to the Central Repository in compliance with the Rule for large OATS-reporting broker-dealers would be approximately 26,856 internal burden hours,¹⁶⁷ for an estimated aggregate initial burden of 3,383,856 hours.¹⁶⁸

Once a large OATS-reporting broker-dealer has established the appropriate systems and processes required for collection and transmission of the required information to the Central Repository, the Commission preliminarily estimates that the Rule would impose on each broker-dealer ongoing annual burdens associated with, among other things, personnel time to monitor each broker-dealer's reporting of the required data and the maintenance of the systems to report the required data; and implementing changes to trading systems which might result in additional reports to the Central Repository.

The CAT NMS Plan provides the following average ongoing internal FTE count figures that a large OATS-reporting broker-dealer would expect to incur to maintain data reporting systems to be in compliance with Rule 613: 10.03 internal FTEs.¹⁶⁹ Based on this information the Commission preliminarily believes that it would take a large OATS-reporting broker-dealer 18,054 ongoing burden hours per year¹⁷⁰ to continue compliance with the Rule. Therefore, the Commission preliminarily estimates that the average

¹⁶⁶ Approach 1 also provided \$6,000,000 in initial internal FTE costs. The Commission preliminarily believes the \$6,000,000 in initial internal FTE costs is the Participants' estimated cost of the 14.92 FTEs. (14.92 FTEs) x (\$401,440 Participants' assumed annual cost per FTE provided in the CAT NMS Plan) = \$5,989,485. See CAT NMS Plan, supra note 4, at Appendix C, Section B.7(b)(ii)(C), at n. 192. See also supra note 123.

¹⁶⁷ 26,856 initial burden hours per large OATS-reporting broker-dealer = (14.92 FTEs for implementation of CAT data reporting systems) x (1,800 working hours per year).

¹⁶⁸ The Commission preliminarily estimates that 126 large OATS-reporting broker-dealers would be impacted by this information collection. 126 large OATS-reporting broker-dealers x 26,856 burden hours = 3,383,856 initial burden hours to implement data reporting systems.

¹⁶⁹ Approach 1 also provided \$4,000,000 in internal FTE costs related to maintenance. The Commission believes the \$4,000,000 in ongoing internal FTE costs is the Participants' estimated cost of the 10.03 FTEs. (10.03 FTEs) x (\$401,440 Participants' assumed annual cost per FTE provided in the CAT NMS Plan) = \$4,026,443. See CAT NMS Plan, supra note 4, at Appendix C, Section B.7(b)(ii)(C), at n. 192. See also supra note 123.

¹⁷⁰ 18,054 ongoing burden hours = (10.03 ongoing FTEs for maintenance of CAT data reporting systems) x (1,800 working hours per year).

ongoing annual burden per large OATS-reporting broker-dealer would be approximately 18,054 burden hours, for an estimated aggregate burden of 2,274,804 hours.¹⁷¹

The Commission estimates that it would take large OATS reporting broker-dealers approximately 3,402,756 annualized burden hours to adopt and maintain systems changes needed to comply with the data reporting requirements of the consolidated audit trail [(26,856 initial burden hours amortized over three years) + (18,054 ongoing burden hours) x (126 large OATS reporting broker-dealers)].

(2) Outsourcing Firms

A. Small OATS-Reporting Broker-Dealers

The Commission estimates that there are 806 broker-dealers that report fewer than 350,000 OATS ROEs monthly. The Commission preliminarily believes that these broker-dealers generally outsource their regulatory reporting obligations because during the period June 15 – July 10, 2015, approximately 88.9% of their 350,000 OATS ROEs were reported through service bureaus, with 730 of these broker-dealers reporting more than 99% of their OATS ROEs through one or more service bureaus.¹⁷²

Firms that outsource their regulatory data reporting still face internal staffing burdens associated with this activity. These employees perform activities such as answering inquiries from their service bureaus, and investigating reporting exceptions. Based on conversations with market participants, the Commission estimates that these firms currently have 0.5 full-time employees devoted to these activities. The Commission estimates that these firms would need to hire one additional full-time employee for one year to implement CAT reporting requirements.

Based on this information, the Commission preliminarily estimates that the average initial burden to implement the needed systems changes to capture the required information and transmit it to the Central Repository in compliance with the CAT NMS Plan for small OATS-reporting broker-dealers would be approximately 1,800 burden hours.¹⁷³ The Commission believes the burden hours would be associated with work performed by internal technology, compliance and legal staff in connection with the implementation of CAT data reporting. Therefore, the Commission preliminarily

¹⁷¹ The Commission preliminarily estimates that 126 large OATS-reporting broker-dealers would be impacted by this information collection. (126 large OATS-reporting broker-dealers) x (18,054 burden hours) = 2,274,804 aggregate ongoing burden hours.

¹⁷² Because of the extensive use of service bureaus in these categories of broker-dealers, the Commission assumes that these broker-dealers are likely to use service bureaus to accomplish their CAT data reporting. See supra note 164.

¹⁷³ This estimate assumes that, based on the expected FTE count provided, a small OATS-reporting broker-dealer would have to hire 1 new FTE for implementation. The salary attributed to the 1 FTE would be (1 x \$424,350 FTE cost) = \$424,350 per year. To determine the number of burden hours to be incurred by the current 0.5 FTE for implementation, multiply 0.5 FTE by 1,800 hours per year = 900 initial burden hours.

estimates that the average one-time initial burden per small OATS-reporting broker-dealer would be 1,800 burden hours, for an estimated aggregate initial burden of 1,450,800 hours.¹⁷⁴

Small OATS-reporting broker-dealers that outsource their regulatory data reporting would likely face internal staffing burdens and external costs associated with ongoing activity, such as maintaining any systems that transmit data to their service providers. The Commission estimates these firms would need 0.75 FTEs on an ongoing basis to maintain CAT reporting.

Based on this information the Commission preliminarily believes that it would take a small OATS-reporting broker-dealer 1,350 ongoing burden hours per year¹⁷⁵ to continue compliance with the Rule. The Commission believes the burden hours would be associated with work performed by internal technology, compliance and legal staff in connection with the ongoing operation of CAT Data reporting. Therefore, the Commission preliminarily estimates that the average ongoing annual burden per small OATS-reporting broker-dealer would be approximately 1,350 hours, for an estimated aggregate ongoing burden of 1,088,100 hours.¹⁷⁶

The Commission estimates that it would take small OATS-reporting broker-dealers approximately 1,571,700 annualized burden hours to implement the needed systems changes to capture the required information and transmit it to the Central Repository and to continue compliance with Rule 613 [(1,800 initial burden hours amortized over three years) + (1,350 ongoing burden hours) x (806 small OATS-reporting broker-dealers)].

B. Non-OATS-Reporting Broker-Dealers

In addition to firms that currently report to OATS, the Commission estimates there are 799 broker-dealers that are currently exempt from OATS reporting rules due to firm size, or excluded because all of their order flow is routed to a single OATS reporter, such as a clearing firm, that would incur CAT reporting obligations.¹⁷⁷ A further 24

¹⁷⁴ The Commission preliminarily estimates that 806 small OATS-reporting broker-dealers would be impacted by this information collection. (806 small OATS-reporting broker-dealers x 1,800 burden hours) = 1,450,800 aggregate initial burden hours.

¹⁷⁵ 1,350 ongoing burden hours = (0.75 FTE for maintenance of CAT Data reporting systems) x (1,800 working hours per year).

¹⁷⁶ The Commission preliminarily estimates that 806 small OATS-reporting broker-dealers would be impacted by this information collection. (806 small OATS-reporting broker-dealers x 1,350 burden hours) = 1,088,100 aggregate ongoing burden hours to ensure ongoing compliance with Rule 613.

¹⁷⁷ The Commission notes that Rule 613 does not exclude from data reporting obligations Participant members that quote or execute transactions in NMS Securities and Listed Options that route to a single market participant. See CAT NMS Plan, supra note 4, at Appendix C, Section B.7(b)(ii)(B)(2).

broker-dealers have Participant memberships only with one Participant;¹⁷⁸ the Commission believes this group is comprised mostly of floor brokers and further preliminarily believes these firms would experience CAT implementation and ongoing reporting costs similar in magnitude to small equity broker-dealers that currently have no OATS reporting responsibilities.

The Commission assumes these broker-dealers would have very low levels of CAT reporting, similar to those of the lowest activity firms that currently report to OATS. Because these firms have more limited data reporting requirements than other firms, the Commission assumes these firms currently have only 0.1 full-time employees currently dedicated to regulatory data reporting activities. The Commission assumes these firms would require 2 full-time employees for one year to implement CAT.

Based on this information, the Commission preliminarily estimates that the average initial burden to develop and implement the needed systems changes to capture the required information and transmit it to the Central Repository in compliance with the Rule for small, non-OATS-reporting broker-dealers would be approximately 3,600 initial burden hours.¹⁷⁹ The Commission believes the burden hours would be associated with work performed by internal technology, compliance and legal staff in connection with the implementation of CAT Data reporting. Therefore, the Commission preliminarily estimates that the average one-time initial burden per small non-OATS-reporting broker-dealer would be 3,600 burden hours, for an estimated aggregate initial burden of 2,962,800 hours.¹⁸⁰

Small non-OATS-reporting broker-dealers that outsource their regulatory data reporting would likely face internal staffing burdens associated with ongoing activity, such as maintaining any systems that transmit data to their service providers. Based on conversations with market participants, the Commission estimates these firms would need 0.75 full-time employees annually to maintain CAT reporting.

Based on this information the Commission preliminarily believes that it would take a small non-OATS-reporting broker-dealer 1,350 ongoing burden hours per year¹⁸¹ to continue compliance with the Rule. Therefore, the Commission preliminarily

¹⁷⁸ This group comprises 24 broker-dealers that have SRO memberships only with CBOE; the Commission believes this group is comprised primarily of CBOE floor brokers and, further, preliminarily believes these firms would incur CAT implementation and ongoing reporting costs similar in magnitude to small equity broker-dealers that currently have no OATS reporting responsibilities because they would face similar tasks to implement and maintain CAT reporting.

¹⁷⁹ 3,600 initial burden hours = (2 FTEs for implementation of CAT Data reporting systems) x (1,800 working hours per year).

¹⁸⁰ The Commission preliminarily estimates that 823 small non-OATS-reporting broker-dealers would be impacted by this information collection. (823 small non-OATS-reporting broker-dealers x 3,600 burden hours) = 2,962,800 aggregate initial burden hours.

¹⁸¹ 1,350 ongoing burden hours = (0.75 FTEs for maintenance of CAT data reporting systems) x (1,800 working hours per year).

estimates that the average ongoing annual burden per small non-OATS-reporting broker-dealer would be approximately 1,350 hours, for an estimated aggregate ongoing burden of 1,111,050 hours.¹⁸²

The Commission estimates that it would take small non-OATS-reporting broker-dealers approximately 2,098,650 annualized burden hours to implement the needed systems changes to capture the required information and transmit it to the Central Repository and to continue compliance with Rule 613 [(3,600 initial burden hours amortized over three years) + (1,350 ongoing burden hours) x (823 small non-OATS-reporting broker-dealers)].

¹⁸² The Commission preliminarily estimates that 823 small non-OATS-reporting broker-dealers would be impacted by this information collection. (823 small non-OATS-reporting broker-dealers x 1,350 burden hours) = 1,111,050 aggregate ongoing burden hours to ensure ongoing compliance with Rule 613.

Summary of Hourly Burdens										
Name of Information Collection	Type of Burden	[A.] Number of Entities Impacted	[B.] Annual Responses per Entity	[C.] Initial Burden per Entity per Response	[D.] Initial Burden Annualized per Entity per Response [= C ÷ 3 years]	[E.] Ongoing Burden per Entity per Response	[F.] Annual Burden Per Entity per Response [= D + E]	[G.] Total Annual Burden Per Entity [= (D + E) * B]	[H.] Total Industry Burden [= G * A]	Small Business Entities Affected
Central Repository	Recordkeeping	20	1	720.00	240.00	720.00	960.00	960.00	19,200.00	0.00
Data Collection and Reporting (Participants)	Third Party Disclosure	20	1	2,185.00	728.33	1,548.00	2,276.33	2,276.33	45,526.67	0.00
Data Collection and Reporting (Large, Non-OATS Reporting Broker-Dealers)	Third Party Disclosure	45	1	14,490.00	4,830.00	13,338.00	18,168.00	18,168.00	817,560.00	
Data Collection and Reporting (Large OATS Reporting Broker-Dealers)	Third Party Disclosure	126	1	26,856.00	8,952.00	18,054.00	27,006.00	27,006.00	3,402,756.00	
Data Collection and Reporting (Small OATS Reporting Broker-Dealers)	Third Party Disclosure	806	1	1,800.00	600.00	1,350.00	1,950.00	1,950.00	1,571,700.00	Estimated 395 ¹⁸³
Data Collection and Reporting (Non-OATS Reporting Broker-Dealers)	Third Party Disclosure	823	1	3,600.00	1,200.00	1,350.00	2,550.00	2,550.00	2,098,650.00	Estimated 823 ¹⁸⁴
Surveillance	Recordkeeping	20	1	3,711.60	1,237.20	14,146.00	15,383.20	15,383.20	307,664.00	0.00
Name of Information Collection	Type of Burden	[A.] Number of Entities Impacted	[B.] Annual Responses per Entity	[C.] Initial Burden per Entity per Response	[D.] Initial Burden Annualized per Entity per Response [= C ÷ 3 years]	[E.] Ongoing Burden per Entity per Response	[F.] Annual Burden Per Entity per Response [= D + E]	[G.] Total Annual Burden Per Entity [= (D + E) * B]	[H.] Total Industry Burden [= G * A]	Small Business Entities Affected

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The Commission believes that the 1,234 Commission-registered broker-dealers (as of 2015) that are considered “small entities” could be impacted by two categories of information collection: “data collection and reporting (small OATS-reporting broker-dealers)” and “data collection and reporting (non-OATS reporting broker-dealers).” The Commission estimates that the 823 respondents affected by the “data collection and reporting (non-OATS reporting broker-dealers)” would all be considered small entities as these firms are currently exempt from OATS reporting rules due to firm size, or are excluded because all of their order flow is routed to a single OATS reporter, or are floor brokers with an SRO membership with a single Participant. The Commission believes these broker-dealers would have very low levels of CAT reporting and would outsource CAT data collection and reporting to a third party, such as a service bureau. The Commission estimates that the remaining 395 broker-dealers (of the estimated 1,234 small entity broker-dealers) would be impacted by the information collection “data collection and reporting (small OATS-reporting broker-dealers).” These firms would not be small enough to be exempt from OATS reporting, but the Commission preliminarily believes that they would have low levels of OATS reporting and would likely outsource CAT data collection and reporting to a service bureau.

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Id.

Written Assessment of Operation of CAT	Reporting	20	1	0.00	0.00	45.00	45.00	45.00	900.00	0.00
Document on Expansion to Other Securities	Reporting	20	1	180.00	60.00	0.00	60.00	60.00	1,200.00	0.00
TOTAL HOURLY BURDEN FOR ALL RESPONDENTS									8,265,156.67	

13. Costs to Respondents

A. Costs to National Securities Exchanges and National Securities Associations

a. Central Repository

The Commission preliminarily estimates that, over the 12-month period after the effectiveness of the CAT NMS Plan within which the Participants would be required to select an initial Plan Processor¹⁸⁵ and begin reporting to the Central Repository,¹⁸⁶ the Participants would collectively spend \$2,400,000 on external public relations, legal and consulting costs associated with the building of the Central Repository and the selection of the Plan Processor for the Central Repository, or \$120,000 per Participant.¹⁸⁷ The Commission is basing this estimate on the estimate provided in the CAT NMS Plan for public relations, legal and consulting costs incurred in preparation of the CAT NMS Plan. Because the Participants described such costs as “reasonably associated with creating, implementing and maintaining the CAT,”¹⁸⁸ the Commission preliminarily believes these external cost estimates should also be applied to the creation and implementation of the Central Repository.

The CAT NMS Plan provides the estimates given by the Shortlisted Bidders¹⁸⁹ for

¹⁸⁵ Rule 613(a)(3)(i) requires the selection of the Plan Processor within 2 months after effectiveness of the CAT NMS Plan. See 17 CFR 242.613(a)(3)(i).

¹⁸⁶ Rule 613(a)(3)(iii) requires the Participants to provide to the Central Repository the data required by Rule 613(c) within one year after effectiveness of the CAT NMS Plan. See 17 CFR 242.613(a)(3)(iii).

¹⁸⁷ See CAT NMS Plan, supra note 4, at Appendix C, Section B.7(b)(iii) (stating “the Participants have incurred public relations, legal and consulting costs in preparation of the CAT NMS Plan. The Participants estimate the costs of these services to be \$8,800,000”). $\$2,400,000$ for all Participants over 12 months = $(\$8,800,000/44 \text{ months between the adoption of Rule 613 and the filing of the CAT NMS Plan}) \times (12 \text{ months})$. $(\$2,400,000 / 20 \text{ Participants}) = \$120,000$ per Participant over 12 months.

¹⁸⁸ Id.

¹⁸⁹ The Selection Committee narrowed the list of Shortlisted Bidders from six to three Shortlisted Bidders. See “Participants, SROs Reduce Short List Bids from Six to Three for Consolidated Audit Trail” (November 16, 2015), available at http://www.catnmsplan.com/pastevents/catnms_release_downselect_111615.pdf. However, the costs provided by the Participants in the CAT NMS Plan are based

the one-time total cost associated with the Plan Processor that would build the Central Repository.¹⁹⁰ The CAT NMS Plan states that these include technological, operational, administrative and “any other material costs.”¹⁹¹ Using the estimates in the CAT NMS Plan, which are based on the Bids of the six Shortlisted Bidders, the Commission preliminarily estimates that the initial one-time cost to develop the Central Repository would be an aggregate initial external cost to the Participants of \$91.6 million,¹⁹² or \$4.6 million per Participant.¹⁹³ Therefore, the Commission preliminarily estimates that each Participant would incur initial one-time external costs of \$4.72 million¹⁹⁴ to build the Central Repository, or an aggregate initial one-time external cost across all Participants of \$94.4 million.¹⁹⁵

on the Bids of the six Shortlisted Bidders.

¹⁹⁰ See CAT NMS Plan, *supra* note 4, at Appendix C, Section B.7(b)(i)(B). See also *id.* at Appendix C, Section B.7(b)(iv)(A)(1). The Commission notes that the cost associated with the build and maintenance of the Central Repository includes compliance with the requirement in Rule 613(e)(8) that the Central Repository retain information collected pursuant to Rule 613(c)(7) and (e)(7) in a convenient and usable standard electronic data format that is directly available and searchable electronically without any manual intervention for a period of not less than five years. See *id.* at Section 6.1(d)(i) (requiring the Plan Processor to comply with the recordkeeping requirements of Rule 613(e)(8)). See also *id.* at Appendix C, Section D.12(l) (stating that Rule 613(e)(8) requires data to be available and searchable for a period of not less than five years, that broker-dealers are currently required to retain data for six years under Rule 17a-4(a), and that the Participants are requiring CAT Data to be kept online in an easily accessible format for regulators for six years, though this may increase the cost to run the CAT). The Commission notes that a Shortlisted Bidder may be permitted to revise its Bid prior to approval of the CAT NMS Plan if the CAT Selection Committee determines by Majority Vote that such revisions are necessary or appropriate, so the estimates provided in the CAT NMS Plan may be subject to change. See *id.* at Section 5.2(c)(ii). In addition, changes in technology between the time the Bids were submitted and the time the Central Repository is built could result in changes to the costs to build and operate the Central Repository.

¹⁹¹ See *id.* at Appendix C, Section B.7(b)(i)(B).

¹⁹² See *id.* (describing the minimum, median, mean and maximum Bidder estimates for the build and maintenance costs of the Central Repository).

¹⁹³ *Id.* The Bidders provided a range of estimates. For purposes of this Paperwork Burden Act analysis, the Commission is using the build cost of the maximum Bidder estimate. $\$4,580,000 = \$91,600,000/20$ Participants.

¹⁹⁴ $\$4,720,000$ for each Participant to build the Central Repository = (\$4.6 million per Participant in initial one-time costs to compensate the Plan Processor to build the Central Repository) + (\$120,000 per Participant in initial one-time public relations, legal and consulting costs associated with the building of the Central Repository and the selection of the initial Plan Processor).

¹⁹⁵ $\$94.4$ million for all of the Participants to build the Central Repository = $\$4.72$ million per Participant to build the Central Repository) x (20 Participants).

After the Central Repository has been developed and implemented, there would be ongoing costs for operating and maintaining the Central Repository, including the cost of systems and connectivity upgrades or changes necessary to receive, consolidate, and store the reported order and execution information from Participants and their members; the costs to store data, and make it available to regulators, in a uniform electronic format, and in a form in which all events pertaining to the same originating order are linked together in a manner that ensures timely and accurate retrieval of the information; the cost, including storage costs, of collecting and maintaining the NBBO and transaction data in a format compatible with the order and event information collected pursuant to the Rule; the cost of monitoring the required validation parameters, which would allow the Central Repository to automatically check the accuracy and completeness of the data submitted and reject data not conforming to these parameters consistent with the requirements of the Rule; and the cost of compensating the CCO. The CAT NMS Plan provides that the Plan Processor would be responsible for the ongoing operations of the Central Repository.¹⁹⁶ In addition, the CAT NMS Plan states that the Participants would incur costs for public relations, legal, and consulting costs associated with maintaining the CAT upon approval of the CAT NMS Plan.¹⁹⁷ The Commission estimates that the Participants will collectively spend \$800,000 annually on external public relations, legal and consulting costs associated with the continued management of the Central Repository, or \$40,000 per Participant.¹⁹⁸

The CAT NMS Plan includes the estimates the six Shortlisted Bidders provided for the annual ongoing costs to the Participants to operate the Central Repository.¹⁹⁹ The CAT NMS Plan did not categorize the costs included in the ongoing costs, but the Commission believes they would comprise external technological, operational and administrative costs, as the Participants described the costs included in the initial one-time external cost to build the Central Repository.²⁰⁰ Using these estimates, the

¹⁹⁶ See CAT NMS Plan, *supra* note 4, at Section 6.1.

¹⁹⁷ See *id.* at Appendix C, Section B.7(b)(iii).

¹⁹⁸ The Commission is basing this external cost estimate on the public relations, legal and consulting external cost estimate provided in the CAT NMS Plan associated with the preparation of the CAT NMS Plan (which the Participants consider “reasonably associated with creating, implementing, and maintaining the CAT upon the Commission’s adoption of the CAT NMS Plan”). See *id.* (stating “the Participants have incurred public relations, legal and consulting costs in preparation of the CAT NMS Plan. The Participants estimate the costs of these services to be \$8,800,000”). $\$2,400,000$ for all Participants over 12 months = $(\$8,800,000/44 \text{ months between the adoption of Rule 613 and the filing of the CAT NMS Plan}) \times (12 \text{ months})$. Because the Central Repository will have already been created, the Commission believes it is reasonable to assume that the Participants will have a lesser need for public relations, legal and consulting services. The Commission is estimating that the Participants will incur one-third of the external cost associated with development and implementation of the Central Repository to maintain the Central Repository. $\$800,000 = (0.333) \times (\$2,400,000)$. $(\$800,000 / 20 \text{ Participants}) = \$40,000$ per Participant over 12 months.

¹⁹⁹ See *id.* at Appendix C, Section B.7(b)(i)(B).

²⁰⁰ See *id.*

Commission preliminarily estimates that the annual ongoing cost to the Participants to compensate the Plan Processor for building, operating and maintaining the Central Repository would be an aggregate ongoing external cost of \$93 million,²⁰¹ or approximately \$4.7 million per Participant.²⁰² Therefore, the Commission preliminarily estimates that each Participant would incur ongoing annual external costs of \$4,740,000²⁰³ to maintain the Central Repository, or aggregate ongoing annual external costs across all Participants of \$94,800,000.²⁰⁴

The Commission estimates that the Participants would incur an aggregate, annualized external cost of approximately \$126,266,667 to create and manage the Central Repository [(\$4,720,000 in initial external costs amortized over three years) + (\$4,740,000 in annual ongoing external costs) x (20 Participants)].

b. Data Collection and Reporting

The CAT NMS Plan provides estimated costs for hardware and software, FTE costs, and third-party providers to be incurred by the Participants to report CAT Data.²⁰⁵ For these estimates, the Commission is relying on the cost data provided by the Participants because it believes that the Plan's estimates for Participants to report CAT

²⁰¹ See id.

²⁰² The Bidders provided a range of estimates. See id. For purposes of this Paperwork Burden Act analysis, the Commission is using the maximum operation and maintenance cost estimate. \$4,650,000 = \$93,000,000/20 Participants. The Commission noted several uncertainties that may affect the Central Repository cost estimates, including (1) that the Participants have not yet selected a Plan Processor and the Shortlisted Bidders have submitted a wide range of cost estimates for building and operating the Central Repository; (2) the Bids submitted by the Shortlisted Bidders may not be final because they may be revised before the final selection of the CAT Processor; and (3) neither the Bidders nor the Commission can anticipate the evolution of technology and market activity with precision, as improvements in available technology may allow the Central Repository to be built and operated at a lower cost than is currently anticipated, but if levels of anticipated market activity are materially underestimated, the capacity of the Central Repository may need to be increased, resulting in an increase in costs.

²⁰³ \$4,740,000 for each Participant to build the Central Repository = (\$4.7 million per Participant in ongoing annual costs to build the Central Repository) + (\$40,000 per Participant in ongoing annual public relations, legal and consulting costs associated with the maintenance of the Central Repository).

²⁰⁴ \$94,800,000 for all of the Participants to maintain the Central Repository = (\$4,740,000 per Participant to compensate the Plan Processor and for external public relations, legal and consulting costs associated with the maintenance of the Central Repository) x (20 Participants).

²⁰⁵ Third-party provider costs are generally legal and consulting costs, but may include other outsourcing. The template used by respondents is available at <http://catnmsplan.com/PastEvents/> under the Section titled "6/23/14" at the "Cost Study Working Template" link.

Data are reliable since all of the Participants provided cost estimates, and most Participants have experience collecting audit trail data, as well as knowledge of both the requirements of Rule 613 as well as their current business practices.

The CAT NMS Plan provides the following average costs that the Participants would expect to incur to adopt the systems changes needed to comply with the data reporting requirements of the consolidated audit trail: \$770,000 in aggregate third party legal and consulting costs and \$17,900,000 in aggregate total costs.²⁰⁶

Based on estimates provided in the CAT NMS Plan, the Commission preliminarily estimates that each Participant would, on average, incur approximately \$38,500 in initial third party legal and consulting costs²⁰⁷ for a total of \$380,000 in initial external costs to adopt the systems changes needed to comply with the data reporting requirements of the consolidated audit trail.²⁰⁸ Therefore, the Commission preliminarily estimates that, for all Participants, the estimated aggregate initial external cost would be \$7,600,000.²⁰⁹

Once a Participant has established the appropriate systems and processes required for collection and transmission of the required information to the Central Repository, the Commission preliminarily estimates that Rule 613 would impose on each Participant ongoing annual burdens associated with, among other things, personnel time to monitor each Participant's reporting of the required data and the maintenance of the systems to report the required data; and implementing changes to trading systems that might result in additional reports to the Central Repository. The CAT NMS Plan provides the following average aggregate costs that the Participants would expect to incur to maintain data

²⁰⁶ See CAT NMS Plan, *supra* note 4, at Appendix C, Section B.7(b)(iii)(B)(2). Of the \$17,900,000 in aggregate total costs, \$11,070,000 is identified (subtotal of FTE costs and outsourcing), but the remaining \$6,830,000 is not identified in the CAT NMS Plan. The Commission believes that the \$6,830,000 may be attributed to hardware costs because the Participants have not provided any hardware costs associated with data reporting elsewhere and the Commission believes that the Participants will likely incur external costs to purchase upgraded hardware to report data to the Central Repository.

²⁰⁷ $(\$770,000 \text{ anticipated initial third party costs}) / (20 \text{ Participants}) = \$38,500$ in initial anticipated third party costs per Participant.

²⁰⁸ To determine the total initial external cost per Participant, the Commission subtracted the anticipated initial FTE cost estimates for the Participants as provided in the Plan from the total aggregate initial costs to the Participants and divided the remainder by 20 Participants. $(\$17,900,000 \text{ total aggregate initial cost to Participants}) - (\$10,300,000 \text{ initial FTE cost to Participants}) = \$7,600,000$ (which includes the \$770,000 in total anticipated initial third party costs). $(\$7,600,000) / 20 \text{ Participants} = \$380,000$ in initial external costs per Participant. See CAT NMS Plan, *supra* note 4, at Appendix C, Section B.7(b)(iii)(B)(1) for the Participants' anticipated costs associated with the implementation of regulatory reporting to the Central Repository.

²⁰⁹ $\$7,600,000 = (\$380,000 \text{ in initial external costs}) \times (20 \text{ Participants})$.

reporting systems to be in compliance with Rule 613: \$720,000 in annual third party legal, consulting, and other costs²¹⁰ and \$14,700,000 total annual costs.²¹¹

Based on estimates provided in the CAT NMS Plan, the Commission preliminarily estimates that it would cost, on average, approximately \$36,000 in ongoing third party legal and consulting and other costs²¹² and \$370,000 in total ongoing external costs per Participant.²¹³ Therefore, the Commission preliminarily estimates that the estimated aggregate ongoing external cost for all Participants would be \$7,400,000.²¹⁴

The Commission estimates that the Participants would incur an aggregate, annualized external cost of approximately \$9,933,333 to adopt and maintain systems changes needed to comply with the data reporting requirements of the consolidated audit trail [(\$380,000 in initial external costs amortized over three years) + (\$370,000 in annual, ongoing external costs) x (20 Participants)].

c. Collection and Retention of NBBO, Last Sale Data and Transaction Reports

Rule 613(e)(7) provides that the CAT NMS Plan must require the Central Repository to collect and retain on a current and continuous basis NBBO information for each NMS security, transaction reports reported pursuant to an effective transaction reporting plan, and Last Sale Reports reported pursuant to the OPRA Plan.²¹⁵ Additionally, the CAT NMS Plan must require the Central Repository to maintain this data in a format compatible with the order and event information consolidated and stored

²¹⁰ See CAT NMS Plan, supra note 4, at Appendix C, Section B.7(b)(iii)(B)(2). The CAT NMS Plan did not identify the other costs.

²¹¹ Of the \$14,700,000 in aggregate total annual costs, \$8,020,000 is identified (subtotal of FTE costs and outsourcing), but the remaining \$6,680,000 is not identified in the CAT NMS Plan. The Commission believes that this amount may be attributed to hardware costs because the Participants have not provided any hardware costs associated with data reporting elsewhere and the Commission believes that the Participants will likely incur costs to upgrade their hardware to report data to the Central Repository.

²¹² (\$720,000 in annual third party costs) / (20 Participants) = \$36,000 per Participant in anticipated annual third party costs.

²¹³ To determine the total external annual cost per Participant, the Commission subtracted the anticipated annual FTE cost estimates for the Participants as provided in the Plan from the total aggregate annual costs to the Participants and divided the remainder by 20 Participants. (\$14,700,000 total aggregate annual cost to Participants) – (\$7,300,000 annual FTE cost to Participants) = \$7,400,000 (which includes the \$720,000 in total anticipated annual third party costs). (\$7,400,000) / 20 Participants = \$370,000 in annual external costs per Participant. See CAT NMS Plan, supra note 4, at Appendix C, Section B.7(b)(iii)(B)(1) for the Participants' anticipated maintenance costs associated with regulatory reporting to the Central Repository.

²¹⁴ \$7,400,000 = (\$370,000 in total annual external costs) x (20 Participants).

²¹⁵ See 17 CFR 242.613(e)(7).

pursuant to Rule 613(c)(7).²¹⁶ Further, the CAT NMS Plan must require the Central Repository to retain the information collected pursuant to paragraphs (c)(7) and (e)(7) of Rule 613 for a period of not less than five years in a convenient and usable uniform electronic format that is directly available and searchable electronically without any manual intervention.²¹⁷ The Commission notes that the CAT NMS Plan includes these data as “SIP Data” to be collected by the Central Repository.²¹⁸ The Commission believes the burden associated with SIP Data is included in the burden to the Participants associated with the implementation and maintenance of the Central Repository.

d. Surveillance

Rule 613(f) provides that the CAT NMS Plan must require that every national securities exchange and national securities association develop and implement a surveillance system, or enhance existing surveillance systems, reasonably designed to make use of the consolidated information contained in the consolidated audit trail. Rule 613(a)(3)(iv) provides that the CAT NMS Plan must require that the surveillance systems be implemented within fourteen months after effectiveness of the CAT NMS Plan.

The CAT NMS Plan states that the estimated total cost to the Participants to implement surveillance programs within the Central Repository is \$23,200,000.²¹⁹ This amount includes legal, consulting, and other costs of \$560,000, as well as \$17,500,000 in FTE costs for operational, technical/development, and compliance staff to be engaged in the creation of surveillance programs.²²⁰

Based on the estimates provided in the CAT NMS Plan, the Commission preliminarily estimates that each Participant would, on average, incur an initial external cost of approximately \$28,000²²¹ for outsourced legal, consulting and other costs in order to implement new or enhanced surveillance systems, for a total of \$285,000 in initial

²¹⁶ Id.

²¹⁷ See 17 CFR 242.613(e)(8).

²¹⁸ See CAT NMS Plan, supra note 4, at Section 6.5(a)(ii).

²¹⁹ See id. at Appendix C, Section B.7(b)(iii)(B)(2).

²²⁰ Id. For purposes of the Paperwork Reduction Act analysis, the Commission is treating the FTE cost as an internal burden. See text accompanying notes 134–136, supra. The Commission also notes that based upon the data provided by the Participants, the source of the remaining \$5,140,000 in initial costs to implement new or enhanced surveillance systems is unspecified. The Commission believes that this amount may be attributed to hardware costs because the Participants have not provided any hardware costs associated with surveillance elsewhere and the Commission believes that the Participants will likely incur costs to implement new or enhanced surveillance systems reasonably designed to make use of the consolidated audit trail data.

²²¹ \$28,000 = \$560,000 / 20 Participants.

external costs,²²² for an aggregate one-time initial external cost of \$5,700,000 across the 20 Participants to implement new or enhanced surveillance systems.²²³

The CAT NMS Plan states that the estimated total annual cost associated with the maintenance of surveillance programs for the Participants is \$87,700,000.²²⁴ This amount includes annual legal, consulting, and other costs of \$1,000,000, as well as \$66,700,000 in annual FTE costs for internal operational, technical/development, and compliance staff to be engaged in the maintenance of surveillance programs.²²⁵ Based on the estimates provided in the CAT NMS Plan,²²⁶ the Commission preliminarily estimates that each Participant would, on average, incur an annual external cost of approximately \$50,000²²⁷ for outsourced legal, consulting and other costs in order to maintain the new or enhanced surveillance systems, for a total estimated ongoing external cost of \$1,050,000,²²⁸ for an estimated aggregate ongoing external cost of \$21,000,000 across the 20 Participants to maintain the surveillance systems.²²⁹

The Commission estimates that the Participants would incur an aggregate, annualized external cost of approximately \$22,900,000 to develop, implement (or enhance existing) surveillance systems reasonably designed to make use of the consolidated information contained in the consolidated audit trail, and to maintain such systems [(\$285,000 in initial external costs amortized over three years) + (\$1,050,000 in annual, ongoing external costs) x (20 Participants)].

²²² $(\$23,200,000 \text{ in total initial surveillance costs} - \$17,500,000 \text{ in FTE costs}) = \$5.7 \text{ million in aggregate one-time initial external costs (which includes the } \$560,000 \text{ in initial external third party costs). } \$5.7 \text{ million} / (20 \text{ Participants}) = \$285,000.$

²²³ $\$5,700,000 = \$285,000 \times 20 \text{ Participants.}$

²²⁴ See CAT NMS Plan, supra note 4, at Appendix C, Section B.7(b)(iii)(B)(2).

²²⁵ Id. For purposes of the Paperwork Reduction Act analysis, the Commission is treating the FTE cost as an internal burden. See text accompanying notes 137–139, supra. The Commission also notes that based upon the data provided by the Participants, the source of the remaining \$21,000,000 in ongoing costs to maintain the new or enhanced surveillance systems is unspecified. The Commission believes that this amount may be attributed to hardware costs because the Participants have not provided any hardware costs associated with surveillance elsewhere and the Commission believes that the Participants would likely incur costs associated with maintaining the new or enhanced surveillance systems.

²²⁶ See CAT NMS Plan, supra note 4, at Appendix C, Section B.7(b)(iii)(B)(2).

²²⁷ $\$50,000 = \$1,000,000 \text{ for ongoing legal, consulting and other costs associated with maintenance of surveillance programs} / 20 \text{ Participants.}$

²²⁸ $(\$87,700,000 \text{ in total ongoing surveillance costs} - \$66,700,000 \text{ in ongoing FTE costs}) = \$21,000,000 \text{ in total ongoing external costs (which includes } \$1,000,000 \text{ in total ongoing external third party costs). } \$21,000,000 / 20 \text{ Participants} = \$1,050,000.$

²²⁹ $\$21,000,000 = \$1,050,000 \times 20 \text{ Participants.}$

e. Written Assessment of Operation of the Consolidated Audit Trail

Rule 613(b)(6) provides that the CAT NMS Plan must require the Participants to provide the Commission a written assessment of the CAT's operation at least every two years, once the CAT NMS Plan is effective.²³⁰ The assessment must address, at a minimum, with respect to the consolidated audit trail: (i) an evaluation of its performance; (ii) a detailed plan for any potential improvements to its performance; (iii) an estimate of the costs associated with any such potential improvements; and (iv) an estimated implementation timeline for any such potential improvements, if applicable.²³¹ Thus, the Participants must, among other things, undertake an analysis of the consolidated audit trail's technological and computer system performance.

The CAT NMS Plan states that the CCO would oversee the assessment required by Rule 613(b)(6), and would allow the Participants to review and comment on the assessment before it is submitted to the Commission.²³² The CCO would be an employee of the Plan Processor and would be compensated by the Plan Processor.²³³ The Commission assumes that the overall cost to the Participants to implement and maintain the Central Repository includes both the compensation for the Plan Processor as well as its employees for the implementation and maintenance of the Central Repository.

The Commission preliminarily estimates that, on average, each Participant would outsource 1.25 hours of legal time annually to assist in the review of the assessment, for an ongoing annual external cost of approximately \$500.²³⁴ Therefore, the Commission preliminarily estimates that the ongoing annual external cost for outsourced legal counsel would be \$500 per Participant per year, for an estimated aggregate annual external cost of \$10,000.²³⁵

²³⁰ 17 CFR 242.613(b)(6).

²³¹ Id.

²³² See CAT NMS Plan, supra note 4, at Section 6.6.

²³³ Id. at Section 6.2(a).

²³⁴ \$500 = (\$400 per hour rate for outside legal services) x (1.25 hours). The Commission based this estimate on the assumption that the written assessment required by Rule 613(b)(6) would require approximately one-half the effort of drafting and submitting the document required by Rule 613(i) regarding the expansion of the CAT to other securities because the Participants have delegated the responsibility to draft the written assessment on the CCO, rather than having to draft it themselves (as with the expansion report), but would also have to review the written assessment and revise it as necessary. Because the written assessment is a biennial requirement, the Commission is further dividing the cost of the written assessment in half (over two years) to estimate the annual ongoing external cost per Participant for outside legal services to review and comment on the written assessment prepared by the CCO.

²³⁵ \$10,000 = 20 Participants x (\$400 per hour rate for outside legal services) x (1.25 hours).

The Commission estimates that the Participants would incur an aggregate, annualized external cost of approximately \$10,000 to review the written assessment [(\$500 in annual, ongoing external costs) x (20 Participants)].

f. Document on Expansion to Other Securities

Rule 613(i) provides that the CAT NMS Plan must require the Participants to jointly provide to the Commission, within six months after the CAT NMS Plan is effective, a document outlining how the Participants could incorporate into the consolidated audit trail information regarding: (1) equity securities that are not NMS securities;²³⁶ (2) debt securities; and (3) primary market transactions in equity securities that are not NMS securities and debt securities.²³⁷ The document must also detail the order and Reportable Event data that each market participant may be required to provide, which market participants may be required to provide such data, an implementation timeline, and a cost estimate. Thus, the Participants must, among other things, undertake an analysis of technological and computer system acquisitions and upgrades that would be required to incorporate such an expansion.

The Commission preliminarily estimates that on average, each Participant would outsource 25 hours of external legal time to create the document, for an aggregate one-time external cost of approximately \$10,000.²³⁸ Therefore, the Commission preliminarily estimates that the one-time initial external cost per Participant to draft the document would be \$10,000, for an estimated aggregate initial external cost of \$200,000.²³⁹

The Commission estimates that the Participants would incur an aggregate, annualized external cost of approximately \$66,667 to create the document addressing expansion of the consolidated audit trail to additional securities as required by Rule 613(i) [(\$10,000 in initial external costs amortized over three years) x (20 Participants)].

²³⁶ The CAT NMS Plan would require the inclusion of OTC Equity Securities, while Rule 613 does not include such a requirement. See supra note 8.

²³⁷ See 17 CFR 242.613(i).

²³⁸ \$10,000 = (25 hours of outsourced legal time per Participant) x (\$400 per hour rate for outside legal services). The Commission derived the total estimated cost for outsourced legal counsel based on the assumption that the report required by Rule 613 would require approximately fifteen percent of the Commission's approximated burden of drafting and filing the CAT NMS Plan. This assumption is based on the Participants leveraging their knowledge gained from their drafting and filing of the CAT NMS Plan and applying it to efficiently preparing the report required by Rule 613 with respect to other securities' order and Reportable Events, implementation timeline and cost estimates.

²³⁹ The initial burden hour estimate is based on: (20 Participants) x (180 initial burden hours to draft the report). The initial external cost estimate is based on: (20 Participants) x (\$10,000 for outsourced legal counsel).

B. Costs to Broker-Dealer Members

a. Data Collection and Reporting

Rule 613(c)(1) requires the CAT NMS Plan to provide for an accurate, time-sequenced record of orders beginning with the receipt or origination of an order by a broker-dealer member of a Participant, and further documenting the life of the order through the process of routing, modification, cancellation and execution (in whole or in part) of the order. Rule 613(c) requires the CAT NMS Plan to impose requirements on broker-dealer members to record and report CAT information to the Central Repository in accordance with specified timelines.

The Commission's estimates delineate broker-dealer firms by whether they insource or outsource, or are likely to insource or outsource, CAT Data reporting obligations. The Commission preliminarily believes that firms that currently report high numbers of OATS ROEs²⁴⁰ strategically would decide to either self-report their CAT Data or outsource their CAT Data reporting functions, while the firms with the lowest levels of activity would be unlikely to have the infrastructure and specialized employees necessary to insource CAT Data reporting and would almost certainly outsource their CAT Data reporting functions. The Commission recognizes that more active firms that will likely be CAT Reporters and insource regulatory data reporting functions may not have current OATS reporting obligations because they either are not FINRA members, or because they do not trade in NMS equity securities.²⁴¹

As noted above, the Commission preliminarily estimates that there are 126 OATS-reporting Insourcers and 45 non-OATS reporting Insourcers.²⁴² The Commission's estimation categorizes the remaining 1,629 broker-dealers that the Plan anticipates would have CAT Data reporting obligations as Outsourcers.²⁴³

(1) Insourcers

A. Large Non-OATS Reporting Broker-Dealers

The Commission relies on the Plan's large broker-dealer cost estimates in estimating costs for large broker-dealers that can practicably decide between insourcing or outsourcing their regulatory data reporting functions. The Commission estimates that there are 14 large broker-dealers that are not OATS reporters currently in the business of electronic liquidity provision that would be classified as Insourcer firms.²⁴⁴

²⁴⁰ See supra note 150.

²⁴¹ The Commission also preliminarily recognizes as discussed above that some broker-dealer firms may strategically choose to outsource despite the Plan's working assumption that these broker-dealers would insource their regulatory data reporting functions.

²⁴² See supra note 152.

²⁴³ See supra note 153.

²⁴⁴ See supra note 155.

Additionally, the Commission estimates that there are 31 broker-dealers that may transact in options but not in equities that can be classified as Insourcer firms.²⁴⁵ These firms may have customer orders and other activity off-exchange that would cause them to incur a CAT reporting obligation.

The Commission assumes the 31 options firms and 14 ELPs would be typical of the Plan's large, non-OATS reporting firms; for these firms, the Commission relies on the cost estimates provided under Approach 1²⁴⁶ for large, non-OATS reporting firms in the CAT NMS Plan.

The CAT NMS Plan provides the following average initial external cost figures that a large non-OATS reporting broker-dealer would expect to incur to adopt the systems changes needed to comply with the data reporting requirements of Rule 613 under Approach 1: \$450,000 in external hardware and software costs, and \$9,500 in external third party/outsourcing costs.²⁴⁷ Based on this information, the Commission preliminarily estimates that these broker-dealers would, on average, incur approximately \$450,000 in initial costs for hardware and software to implement the systems changes needed to capture the required information and transmit it to the Central Repository, and an additional \$9,500 in initial third party/outsourcing costs. Therefore, the Commission preliminarily estimates that the average one-time initial external cost per ELP and options market-making firm would be \$459,500,²⁴⁸ for an estimated aggregate initial external cost of \$20,677,500.²⁴⁹

Once a large non-OATS reporting broker-dealer has established the appropriate systems and processes required for collection and transmission of the required information to the Central Repository, the Commission preliminarily estimates that the Rule would impose ongoing annual burdens associated with, among other things, personnel time to monitor each large non-OATS reporting broker-dealer's reporting of the required data and the maintenance of the systems to report the required data; and implementing changes to trading systems that might result in additional reports to the Central Repository. The CAT NMS Plan provides the following average ongoing external costs that a large non-OATS reporting broker-dealer would expect to incur to maintain data reporting systems to be in compliance with Rule 613: \$80,000 in external hardware and software costs, and \$1,300 in external third party/outsourcing costs.²⁵⁰ Based on this information, the Commission preliminarily estimates that it would cost, on average, approximately \$80,000 per year per large non-OATS reporting broker-dealer to

²⁴⁵ See supra note 156.

²⁴⁶ See supra note 157.

²⁴⁷ See CAT NMS Plan, supra note 4, at Section B.7(b)(iii)(c)(2)(a). The Commission believes that the third party/outsourcing costs may be attributed to the use of service bureaus (potentially), technology consulting, and legal services.

²⁴⁸ (\$450,000 in initial hardware and software costs) + (\$9,500 initial third party/outsourcing costs) = \$459,500 in initial external costs to implement data reporting systems.

²⁴⁹ (\$450,000 in hardware and software costs) + (\$9,500 third party/outsourcing costs) x 45 large, non-OATS reporting broker-dealers = \$20,677,500 in initial external costs to implement data reporting systems.

maintain systems connectivity to the Central Repository and purchase any necessary hardware, software, and other materials, and an additional \$1,300 in third party/outsourcing costs.²⁵¹ Therefore, the Commission preliminarily estimates that the average ongoing annual external cost per large non-OATS reporting broker-dealer would be approximately \$81,300 in external costs²⁵² to maintain the systems necessary to collect and transmit information to the Central Repository, for an estimated aggregate ongoing external cost of \$3,658,500.²⁵³

The Commission estimates that large non-OATS reporting broker-dealers would incur an aggregate, annualized external cost of approximately \$10,551,000 to adopt and maintain systems changes needed to comply with the data reporting requirements of the consolidated audit trail [(\$459,500 in initial external costs amortized over three years) + (\$81,300 in annual, ongoing external costs) x (45 large non-OATS reporting broker-dealers)].

B. Large OATS-Reporting Broker-Dealers

The Commission estimates that 126 broker-dealers, which reported more than 350,000 OATS ROEs between June 15 and July 10, 2015, would strategically decide to either self-report CAT Data or outsource their CAT data reporting functions.²⁵⁴ To conduct its Paperwork Burden Analysis for the 126 broker-dealers, the Commission is relying on the estimates used by the CAT NMS Plan of expected costs that a large OATS-reporting broker-dealer would incur as a result of the implementation of the consolidated audit trail under Approach 1.²⁵⁵

The CAT NMS Plan provides the following average initial external cost figures that a large OATS-reporting broker-dealer would expect to incur as a result of the implementation of the consolidated audit trail under Approach 1: \$750,000 in hardware and software costs, and \$150,000 in external third party/outsourcing costs.²⁵⁶ Based on this information the Commission preliminarily estimates that these large OATS-reporting broker-dealers would, on average, incur approximately \$750,000 in initial external costs

²⁵⁰ See CAT NMS Plan, supra note 4, at Appendix C, Section B.7(b)(iii)(C)(2)(b). The CAT NMS Plan did not break down these third party costs into categories.

²⁵¹ Id.

²⁵² (\$80,000 in ongoing external hardware and software costs) + (\$1,300 ongoing external third party/outsourcing costs) = \$81,300 in ongoing external costs per large non-OATS reporting broker-dealer.

²⁵³ (\$80,000 in ongoing external hardware and software costs) + (\$1,300 ongoing external third party/outsourcing costs) x (45 large non-OATS reporting broker-dealers) = \$3,658,500 in aggregate ongoing external costs.

²⁵⁴ See supra note 164.

²⁵⁵ See supra note 157.

²⁵⁶ See CAT NMS Plan, supra note 4, at Appendix C, Section B.7(b)(iii)(C)(2)(a). The CAT NMS Plan did not break down these third party costs into categories. The Commission preliminarily believes that these costs may be attributed to the use of service bureaus, technology consulting, and legal services.

for hardware and software to implement the systems changes needed to capture the required information and transmit it to the Central Repository, and an additional \$150,000 in initial external third party/outsourcing costs.²⁵⁷ Therefore, the Commission preliminarily estimates that the average one-time initial external cost per Participant would be \$900,000 to implement CAT data reporting systems,²⁵⁸ for an estimated aggregate initial external cost of \$113,400,000.²⁵⁹

Once a large OATS-reporting broker-dealer has established the appropriate systems and processes required for collection and transmission of the required information to the Central Repository, the Commission preliminarily estimates that the Rule would impose on each broker-dealer ongoing external costs associated with, among other things, personnel time to monitor each broker-dealer's reporting of the required data and the maintenance of the systems to report the required data; and implementing changes to trading systems which might result in additional reports to the Central Repository.

The CAT NMS Plan provides the following average ongoing external cost figures that a large OATS-reporting broker-dealer would expect to incur to maintain data reporting systems to be in compliance with Rule 613: \$380,000 in ongoing external hardware and software costs, and \$120,000 in ongoing external third party/outsourcing costs.²⁶⁰ Based on this information the Commission preliminarily believes that it would cost, on average, approximately \$380,000 per year per large OATS-reporting broker-dealer to maintain systems connectivity to the Central Repository and purchase any necessary hardware, software, and other materials, and an additional \$120,000 in external ongoing third party/outsourcing costs.²⁶¹ Therefore, the Commission preliminarily estimates that the average ongoing annual external cost per large OATS-reporting broker-dealer would be approximately \$500,000²⁶² to maintain the systems necessary to collect and transmit information to the Central Repository, for an estimated aggregate ongoing external cost of \$63,000,000.²⁶³

²⁵⁷ See id.

²⁵⁸ (\$750,000 in initial external hardware and software costs) + (\$150,000 initial external third party/outsourcing costs) = \$900,000 in initial external costs per large OATS-reporting broker-dealer to implement CAT data reporting systems.

²⁵⁹ (\$750,000 in initial external hardware and software costs) + (\$150,000 initial external third party/outsourcing costs) x 126 large OATS-reporting broker-dealers = \$113,400,000 in initial external costs to implement data reporting systems.

²⁶⁰ See CAT NMS Plan, supra note 4, at Appendix C, Section B.7(b)(iii)(C)(2)(b). The CAT NMS Plan did not categorize these third party costs. The Commission preliminarily believes that these costs may be attributed to the use of service bureaus, technology consulting, and legal services.

²⁶¹ See id.

²⁶² (\$380,000 in ongoing external hardware and software costs + \$120,000 in ongoing external third party/outsourcing costs) = \$500,000 in ongoing external costs per large OATS-reporting broker-dealer.

²⁶³ (\$380,000 in ongoing external hardware and software costs + \$120,000 in ongoing external third party/outsourcing costs) x 126 large OATS-reporting

The Commission estimates that large OATS reporting broker-dealers would incur an aggregate, annualized external cost of approximately \$100,800,000 annualized external cost to adopt and maintain systems changes needed to comply with the data reporting requirements of the consolidated audit trail [(\$900,000 initial external costs amortized over three years) + (\$500,000 ongoing annual, external costs) x (126 large OATS reporting broker-dealers)].

(2) Outsourcing Firms

A. Small OATS-Reporting Broker-Dealers

The Commission estimates that there are 806 broker-dealers that report fewer than 350,000 OATS ROEs monthly. The Commission preliminarily believes that these broker-dealers generally outsource their regulatory reporting obligations because during the period June 15 – July 10, 2015, approximately 88.9% of their 350,000 OATS ROEs were reported through service bureaus, with 730 of these broker-dealers reporting more than 99% of their OATS ROEs through one or more service bureaus.²⁶⁴ The Commission estimates that these firms currently spend an aggregate of \$100.1 million on annual outsourcing costs.²⁶⁵ The Commission estimates these 806 broker-dealers would spend \$100.2 million in aggregate to outsource their regulatory data reporting to service bureaus to report in accordance with Rule 613,²⁶⁶ or \$124,373 per broker-dealer.²⁶⁷ Therefore, the Commission preliminarily estimates that each small OATS-reporting broker-dealer would incur approximately \$124,373 in initial external costs, for an estimated aggregate initial external cost of \$100,244,638.²⁶⁸

The Commission preliminarily estimates that it would cost small OATS-reporting broker-dealers, on average, approximately \$124,373 in ongoing external outsourcing costs²⁶⁹ to ensure ongoing compliance with Rule 613.

Therefore, the Commission preliminarily estimates that the average ongoing external cost per small OATS-reporting broker-dealer would be approximately \$124,373, for an estimated aggregate ongoing external cost of \$100,244,638.²⁷⁰

broker-dealers = \$63,000,000 in aggregate ongoing external costs.

²⁶⁴ See supra note 172.

²⁶⁵ The average broker-dealer in this category reported 15,185 OATS ROEs from June 15-July 10, 2015; the median reported 1,251 OATS ROEs. Of these broker-dealers, 39 reported more than 100,000 OATS ROEs during the sample period.

²⁶⁶ Id.

²⁶⁷ \$124,373 = \$100,200,000/806 broker-dealers. This amount is the average estimated annual outsourcing cost to firms that currently report fewer than 350,000 OATS ROEs per month. Id.

²⁶⁸ (\$124,373 in outsourcing costs) x (806 small OATS-reporting broker-dealers) = \$100,244,638 in aggregate initial external costs.

²⁶⁹ See supra note 267.

²⁷⁰ \$100,244,638 = \$124,373 in ongoing outsourcing costs x 806 broker-dealers.

The Commission estimates that small OATS-reporting broker-dealers would incur an aggregate, annualized external cost of approximately \$133,659,517 to outsource their regulatory data reporting to service bureaus and to ensure ongoing compliance with Rule 613 [(\$124,373 in initial external costs amortized over three years) + (\$124,373 in annual, ongoing external costs) x (806 small OATS-reporting broker-dealers)].

B. Non-OATS-Reporting Broker-Dealers

In addition to firms that currently report to OATS, the Commission estimates there are 799 broker-dealers that are currently exempt from OATS reporting rules due to firm size, or excluded because all of their order flow is routed to a single OATS reporter, such as a clearing firm, that would incur CAT reporting obligations.²⁷¹ A further 24 broker-dealers have Participant memberships only with one Participant;²⁷² the Commission believes this group is comprised mostly of floor brokers and further preliminarily believes these firms would experience CAT implementation and ongoing reporting costs similar in magnitude to small equity broker-dealers that currently have no OATS reporting responsibilities.²⁷³

The Commission assumes these broker-dealers would have very low levels of CAT reporting, similar to those of the lowest activity firms that currently report to OATS. For these firms, the Commission assumes that under CAT they would incur the average estimated service bureau cost of broker-dealers that currently report fewer than 350,000 OATS ROEs per month, which is \$124,373 annually.²⁷⁴

Based on this information, the Commission preliminarily estimates that each small non-OATS-reporting broker-dealer would incur approximately \$124,373 in initial external outsourcing costs. Therefore, the Commission preliminarily estimates that the average one-time initial external cost per small OATS-reporting broker-dealer would be \$124,373, for an estimated aggregate initial external cost of \$102,358,979.²⁷⁵

The Commission preliminarily estimates that it would cost, on average, approximately \$124,373 in ongoing external outsourcing costs²⁷⁶ to ensure ongoing compliance with Rule 613. Therefore, the Commission preliminarily estimates that the average ongoing annual burden per small non-OATS-reporting broker-dealer would be

²⁷¹ See text accompanying note 177, supra.

²⁷² See supra note 178.

²⁷³ Id.

²⁷⁴ Id.

²⁷⁵ (\$124,373 in outsourcing costs) x (823 small non-OATS-reporting broker-dealers) = \$102,358,979 in aggregate initial external costs.

²⁷⁶ The Commission assumes these firms would have very low levels of CAT reporting, similar to those of the lowest activity firms that currently report to OATS. For these firms, the Commission assumes that under CAT they would incur the average estimated service bureau cost of firms that currently OATS report fewer than 350,000 OATS ROEs per month of \$124,373 annually.

approximately \$124,373 in external costs, for an estimated aggregate ongoing external cost of \$102,358,979.²⁷⁷

The Commission estimates that small non-OATS-reporting broker-dealers would incur aggregate, annualized external costs of approximately \$136,478,639 to outsource data collection and reporting and to ensure ongoing compliance with Rule 613[(\$124,373 in initial external costs amortized over three years) + \$124,373 in annual, ongoing external costs) x (823 small non-OATS-reporting broker-dealers)].

²⁷⁷ (\$124,373 in ongoing external outsourcing costs) x 823 = \$102,358,979 in aggregate ongoing external costs to ensure ongoing compliance with Rule 613.

Summary of Dollar Costs										
Name of Information Collection	Type of Burden	[A.] Number of Entities Impacted	[B.] Annual Responses per Entity	[C.] Initial Cost per Entity per Response	[D.] Initial Cost Annualized per Entity per Response [= C ÷ 3 years]	[E.] Ongoing Cost per Entity per Response	[F.] Annual Cost Per Entity per Response [= D + E]	[G.] Total Annual Cost Per Entity [= (D + E) * B]	[H.] Total Industry Cost [= G * A]	Small Business Entities Affected
Central Repository	Recordkeeping	20	1	\$4,720,000.00	\$1,573,333.33	\$4,740,000.00	\$6,313,333.33	\$6,313,333.33	\$126,266,666.67	
Data Collection and Reporting (Participants)	Third Party Disclosure	20	1	\$380,000.00	\$126,666.67	\$370,000.00	\$496,666.67	\$496,666.67	\$9,933,333.33	
Data Collection and Reporting (Large, Non-OATS Reporting Broker-Dealers)	Third Party Disclosure	45	1	\$459,500.00	\$153,166.67	\$81,300.00	\$234,466.67	\$234,466.67	\$10,551,000.00	
Data Collection and Reporting (Large OATS Reporting Broker-Dealers)	Third Party Disclosure	126	1	\$900,000.00	\$300,000.00	\$500,000.00	\$800,000.00	\$800,000.00	\$100,800,000.00	
Data Collection and Reporting (Small OATS Reporting Broker-Dealers)	Third Party Disclosure	806	1	\$124,373.00	\$41,457.67	\$124,373.00	\$165,830.67	\$165,830.67	\$133,659,517.33	Estimated 395 ²⁷⁸
Data Collection and Reporting (Non-OATS Reporting Broker-Dealers)	Third Party Disclosure	823	1	\$124,373.00	\$41,457.67	\$124,373.00	\$165,830.67	\$165,830.67	\$136,478,638.67	Estimated 823 ²⁷⁹
Surveillance	Recordkeeping	20	1	\$285,000.00	\$95,000.00	\$1,050,000.00	\$1,145,000.00	\$1,145,000.00	\$22,900,000.00	
Written Assessment of Operation of CAT	Reporting	20	1			\$500.00	\$500.00	\$500.00	\$10,000.00	
Document on Expansion to Other Securities	Reporting	20	1	\$10,000.00	\$3,333.33		\$3,333.33	\$3,333.33	\$66,666.67	
TOTAL COST FOR ALL RESPONDENTS									\$540,665,822.67	

14. Costs to Federal Government

The Commission has incurred an external cost of \$250,000 for technology consulting services to date, and has incurred an external cost of \$250,000 for activities in 2017 related to programmatic and IT requirements development.

15. Changes in Burden

Not applicable. The Commission has issued a notice soliciting comment on the new “collection of information” requirements and associated paperwork burdens. The Commission will consider all comments received on the notice in deciding whether to approve the CAT NMS Plan, and if it decides to approve the CAT NMS Plan, will respond to comments in the approval order and revise Items 12 and/or 13 if necessary.

16. Information Collection Planned for Statistical Purposes

²⁷⁸ See supra note 183.

²⁷⁹ Id.

The Commission does not intend for the collection of information to be published.

17. Display of OMB Approval Date

The Commission is not seeking approval to not display the expiration date for OMB approval.

18. Exceptions to Certification

This collection complies with the requirements in 5 CFR 1320.9.

B. Collections of Information Employing Statistical Methods

This information collection does not involve statistical methods.