FINANCIAL INFORMATION FORUM

December 16, 2022

By electronic mail

Securities and Exchange Commission
100 F Street, NE
Washington, DC 20549-1090
Attn: Mark Donohue, Senior Policy Advisor, Division of Trading and Markets

Re: Reporting verbal activity to the Consolidated Audit Trail

Dear Mr. Donohue,

Financial Information Forum ("FIF") and our members understand that the Securities and Exchange Commission (the "Commission") and the Participants (the "Participants") in the National Market System Plan Governing the Consolidated Audit Trail (the "CAT NMS Plan")[1] are engaged in discussions relating to the reporting of certain verbal activity to the Consolidated Audit Trail system ("CAT"). Because FIF members are not participating in these discussions, FIF members consider it important to engage in direct discussions with Commission representatives on this issue.

As background, on November 12, 2020 the Commission issued an Order (the "2020 Order") granting a temporary conditional exemption from the reporting of certain verbal activity to CAT.[2] The relief granted in the 2020 Order expires on July 31, 2023.[3] On June 3, 2022, the Participants submitted a request for permanent exemptive relief from the reporting of certain verbal activity to CAT (the "Participant Exemptive Request").[4]

FIF members request the opportunity to engage in direct discussions with the Commission staff on CAT reporting for verbal activity. In particular, FIF members want to discuss extending for a period of three years (until July 31, 2026) the current exemption from the requirement for firms to report verbal

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[1] Limited Liability Company Agreement of Consolidated Audit Trail, LLC (Jul. 24, 2020), https://catnmsplan.com/sites/default/files/2020-07/LLC-Agreement-of-Consolidated-Audit-Trail-LLC-as-of-7.24.20.pdf. Capitalized terms not otherwise defined in this letter have the same meaning as they do in the CAT NMS Plan.
[2] Exchange Act Release No. 34-90405 (Nov. 12, 2020).
[3] Id. at 2.
[4] Letter dated June 3, 2022 from Mike Simon, CAT NMS Plan Operating Committee Chair, to Vanessa Countryman, Secretary, Securities and Exchange Commission, "Request for Exemption from Certain Provisions of the National Market System Plan Governing the Consolidated Audit Trail Related to Reporting of Certain Verbal Activity, Floor and Upstairs Activity", https://catnmsplan.com/sites/default/files/2022-06/06.03.2022-CAT-Exemption-Request-Verbal-Floor-and-Upstairs-Activity-Final.pdf.

activity. This letter is not intended as an official request for exemptive relief and is instead intended as an initial written submission on behalf of FIF members to facilitate a discussion of why relief is necessary.

The scope of any exemptive relief could be limited as follows:

- The relief would only apply for voice communications and unstructured electronic communications (such as email, IM and chat).
- The relief would only apply for bilateral communications (one broker-dealer to one customer or one broker-dealer to a second broker-dealer).
- The relief would only apply for upstairs communications (i.e., communications that do not occur on an exchange trading floor).
- The relief would only apply where a further affirmative action by the broker-dealer communicating a price is required before an execution (for equities) or the routing of matched orders (for options) can occur. For equities, this further affirmative action consists of the broker-dealer subsequently accepting an order from the customer and agreeing to execute against the customer order. For options, this further affirmative action consists of the broker-dealer subsequently accepting an order from the customer and agreeing to match against the customer order.[5]
- The relief would only apply where a broker-dealer provides appropriate disclosure to customers regarding its trade execution processes.

While the scope of relief that is the focus of this letter is limited as set forth above, FIF members consider that exemptive relief also is necessary for verbal activity on an exchange floor and for electronic responses to RFQs (requests for quotes) that cannot be executed by the party that receives the RFQ response.

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The following points support the need for exemptive relief for verbal activity and are discussed in further detail below. For purposes of this letter, "verbal activity" means verbal communications that, absent an exemption, could be reportable to CAT as quotes or quote-related events.

Automated capture of verbal activity is not possible based on current technology

The Participants state in the Participant Exemptive Request that "capturing and interpreting [verbal] activity in an automated manner is not possible with current Technology."[6] FIF members agree with this statement. Attachment I to this letter provides various scenarios that involve broker-dealer representatives providing prices to customers (including other broker-dealers) through unstructured

[5] In connection with the verbal scenarios described in this letter, we refer to the fact that a further affirmative action by the broker-dealer communicating a price is required before an execution can occur. For options, this should be understood to mean that a further affirmative action by the broker-dealer communicating a price is required before the broker-dealer can route matched orders for execution.

[6] Participant Exemptive Request, at 2.

electronic communications and telephone communications. These scenarios demonstrate why it is not possible with current technology to capture and interpret verbal activity in an automated manner. We discuss this in further detail in Section I.

The costs for manually capturing, interpreting and reporting verbal activity will be significant

Given that it is not possible with current technology to capture and interpret verbal activity in an automated manner, firms will need to implement manually-intensive processes to capture, interpret and report this activity. FIF members project an annual cost in excess of $4.4 billion to manually capture this verbal activity. We discuss this in further detail in Section II.

The CAT NMS Plan and the Commission's approval order do not address these significant costs

The CAT NMS Plan and the Commission's approval order for the CAT NMS Plan[7] do not address the significant costs associated with CAT reporting for this verbal activity.

Industry members will curtail their current verbal activity

Because of the significant cost that would be involved to capture and interpret verbal activity, it is likely that industry members will curtail their current verbal activity, resulting in reduced execution quality for customer orders and reduced market liquidity. Currently, the upstairs market provides an important function for price discovery and minimizing market impact, particularly for stocks and options that are less liquid or have wider spreads. Institutional investors ("buy-side") and broker-dealers ("sell-side") are both deeply concerned with the possible impact to the upstairs market if members are forced to curtail this verbal activity. It is beyond the scope of this letter to discuss this impact in detail, but it is important for the regulators and industry members (including buy-side and sell-side) to engage in further discussion on this point to ensure that regulators are aware of the impact of requiring that the verbal activity discussed in this letter be reported to CAT. The expected impact on existing trading workflows also is a concern because it is the understanding of FIF members that CAT was not intended to impact order handling and trade execution practices.

Prices communicated in upstairs one-to-one unstructured communications always requires a further affirmative action by the communicating party

Section III of this letter provides scenarios to demonstrate that in any upstairs trading scenario where a price is communicated by a broker-dealer representative through an unstructured communication (i.e., a voice communication or an unstructured electronic communication), there will always be a further affirmative action by the communicating broker-dealer before an execution can occur. These scenarios demonstrate that prices communicated through verbal activity are not binding on the communicating party.

[7] Exchange Act Release No. 34-79318 (Nov. 15, 2016).

There is a very straightforward reason why industry members conduct trading in this manner. Given how rapidly quotes and prices in equity markets update, firms cannot be held to prices that no longer reflect the current market. Industry members also need to ensure compliance with the Commission's order protection rule in these fast moving markets.[8] This is well understood by industry members and their customers.

The current CAT documentation does not provide industry members sufficient guidance to commence work to report verbal activity to CAT; the CAT system does not currently support reporting of verbal activity

The current Technical Specifications, Reporting Scenarios and other documentation do not provide the necessary guidance for firms to commence work to report verbal activity to CAT. In addition, the CAT system does not currently support reporting of this activity. As one example, discussed below, the CAT system does not currently provide for New Quote events for options, so industry members currently have no ability to report verbal activity for options to CAT. Given the current state, implementing reporting of verbal activity as of August 1, 2023 is not possible.

Current lack of regulatory clarity

It is unclear to industry members as to the conditions for when various types of verbal activity would be reportable to CAT, and existing regulatory guidance (discussed in Section V) would indicate that the verbal activity discussed in this letter should not be reportable to CAT. In particular, in scenarios where a broker-dealer must undertake a further affirmative action after verbally communicating a price to a single customer or counter-party before a trade execution can occur, would the broker-dealer's communication of that price be subject to CAT reporting? For the reasons discussed in Section V, FIF members do not consider this activity to be reportable but are concerned that the Commission and the Participants could have a different interpretation. It would be a mistake to introduce a requirement for reporting upstairs trading activity given the current lack of regulatory clarity as to when a communicated price would be reportable. This is discussed in further detail in Section V.

The regulatory value of this data is not clear

If an unstructured communication results in an agreement and execution, both an order and an execution will be reported to CAT. It is difficult to see the purpose of reporting to CAT the "discussion" that led to the order being generated. Since there are no unique identifiers included in a telephone or unstructured electronic communication (i.e., no unique identifiers that would be equivalent to a CAT order or quote identifier), the CAT Transaction Reporting system would not be able to link the communication of a price to a subsequent order or other event. More so, what if an agreement is not reached? What is the purpose of requiring the entire industry to undertake the extremely costly effort to systematize and report an open-ended, bilateral "discussion" to CAT that ended without either party taking any action whatsoever (no orders, no executions, etc.)?

[8] 17 CFR §242.611.

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During the proposed three-year exemption period, the Commission, the Participants, FINRA CAT, FINRA and market participants (including buy-side institutions) should undertake the following actions:

- FINRA should engage in discussions with industry members and other market participants (including buy-side institutions) to identify the various upstairs trading workflows. Based on these discussions, FINRA should provide guidance to industry members as to the circumstances under which upstairs communications would and would not be subject to CAT reporting.
- Based on the legal clarifications provided by FINRA, the Participants and FINRA CAT (in consultation with industry members and other market participants), should publish updated Technical Specifications, Reporting Scenarios and other applicable documentation to provide clarity on how the different upstairs verbal workflows should be reported to CAT.
- Based on the updated regulatory guidance provided by FINRA and the updated CAT reporting documentation published by the Participants and FINRA CAT, industry members should consider workflow changes and changes to customer disclosures that would be necessary to comply with the requirements for reporting upstairs verbal activity to CAT.
- Regulators, in consultation with industry members and other market participants (including buy-side institutions), should evaluate the impact on customer order execution quality and market liquidity if the current verbal activity is regulated out of existence or severely curtailed as a result of CAT reporting requirements.

I. Based on the current technology, it is not feasible for firms to capture, interpret and report verbal activity in an automated manner

Based on the current technology, industry members are not able to capture, interpret and report verbal activity in an automated manner. A number of FIF member firms have conducted internal analyses of this issue and have concluded that there is currently no artificial intelligence software or algorithm with a feasible architecture to accurately capture and report the diverse set of verbal activities that occur as part of the trading process. Attachment II provides additional detail as to why natural language processing ("NLP") at present is not suitable for this purpose.

Attachment I provides sample unstructured electronic communication scenarios from FIF members. These scenarios demonstrate why it is not possible for industry members to automate the reporting of verbal activity. All of these scenarios are based on actual trading scenarios provided by FIF members with employee names (or initials), symbols and other transaction terms changed to maintain anonymity. For each scenario, we identify the various reporting challenges. As is evident from the scenarios, in many cases it is not possible to definitively interpret, reconstruct and report these scenarios without further context that is not available within the text itself. FIF members would appreciate the opportunity to review these scenarios during a telephone call with Commission staff.

II. Updated cost estimates to implement reporting of verbal quotes

As discussed in Section I, it is not feasible, based on the current technology, for firms to automate the capture, interpretation and reporting of verbal quotes to CAT. Because automating this process is not feasible, firms will need to manually capture and report verbal activity in order to report this activity to CAT.

Industry members project an annual cost of $4.429 billion to manually capture and report verbal activity. These cost projections are set forth on Attachment III. This updated projection reflects a more detailed understanding of the work that would be required to report verbal activity. FIF members have made the following updates to the projections submitted on behalf of industry members in 2018:[9]

- We have maintained the same Firm Type categories and the number of firms in each Firm Type category. These numbers were taken directly from the Commission's November 15, 2016 Order Approving the National Market System Plan Governing the Consolidated Audit Trail (the "CAT Approval Order").[10] FIF members have requested that the Participants provide updated data on the number of firms in each Firm Type category based on data available in CAT. The Participants have indicated that they are unable to provide this data because this would not be a regulatory use of the CAT data. The Commission has access to the data in CAT relating to Firm Type category and can update the Firm Type categories accordingly. Industry members do not believe that updating the Firm Type categories and the number of firms in each Firm Type category (based on the data in CAT) would have a material impact on the cost projections.
- We have also maintained, for each Firm Type category, the estimated percentage of firms manually quoting and the estimated number of traders per firm.
- We have projected that for each trader at a firm one full-time compliance person at that firm will be required to review all of the phone conversations and unstructured electronic communications (including emails, IMs and other chats) of that trader and manually input this data into a quote capture system. This projection is discussed in more detail below.
- While the 2018 projections differentiate between light and heavy quoters, we no longer consider this distinction because a compliance person will need to review all of the phone conversations and unstructured electronic communications of a trader regardless of the level of quoting activity of that trader.
- To compute the annual projected cost for one full-time compliance person, we have taken the $425,000 estimate set forth in the CAT Approval Order[11] and applied an average inflation rate of 3.61% based on the CPI Inflation Calendar made publicly available by the U.S. Bureau of Labor Statistics.[12] This inflation rate covers the period from November 2016 (the month in which the Commission issued its approval order) through September 2022. The aggregate inflation rate for this period was 22.98%.

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[9] The 2018 projections are also included in Attachment III.

[10] Exchange Act Release No. 34-79318 (Nov. 15, 2016), at 657.

[11] Id. at 647, 653, 886 and 887.

[12] U.S. Bureau of Labor Statistics, "CPI Inflation Calculator," https://www.bls.gov/data/inflation_calculator.htm.

- We have removed the projected cost per manual quoting firm to implement a quote capture system. Implementing a quote capture system is an implementation cost, and the updated cost projections are focused on the annual compliance costs.
- Our projected costs include costs for a compliance person to review and report verbal activity. Our projected costs do not include annual technology-related costs, which also would be significant. These costs include licensing and other costs for firm personnel to access unstructured data (including telephone and IM logs) on a real-time basis and costs for licensing and maintaining a quote capture system.

Industry members project that one full-time compliance person (or non-compliance person with monitoring and reporting responsibilities) will be required for each trader. We use the term “compliance person” to refer to this person. The compliance person will need to listen to all of a trader’s telephone conversations that occurred throughout the day (including pre-open and post-close conversations). The compliance person also will need to review all emails, IMs and chats (unstructured electronic communications) of the trader throughout the day (including pre-open and post-close communications). A trader can have multiple IMs and chats open at any one time. As demonstrated by Scenario 5 of Attachment I, the compliance person also will need to review FIX and other structured messages that could be referenced by the trader or its customer during an unstructured communication. As further demonstrated by Scenario 4 of Attachment I, in some cases it will be necessary for the compliance person to identify telephone and unstructured electronic communications that are associated to each other and to review the two forms of communication in conjunction with each other.

For each telephone and unstructured electronic communication, the compliance person will need to determine whether the trader has communicated a reportable quote based on regulatory guidelines. Because of the lack of regulatory guidance on this issue, it will be necessary in certain cases to include legal personnel in these determinations. If the compliance person determines that a quote has been communicated, the compliance person will need to determine how to report each of the relevant fields for that quote. In certain cases, the compliance person will need to obtain clarification from the trader as to the intent of a specific communication and potentially document that clarification for internal audit trail purposes. The compliance person also will need to determine whether the quote recipient is a representative of another broker-dealer; if that is the case, the compliance representative will need to determine and report the MPID of the other broker-dealer. Once the compliance person has determined the terms of any quote (including how to report each CAT reportable field), the compliance person will need to manually enter this data into a quote capture system. This will include reporting the route of the quote to a customer or broker-dealer. The compliance person also will need to manually identify and manually input any subsequent events relating to a quote, including any modification or cancel of a quote.

The compliance person must perform this work not only for pricing provided by the broker-dealer but also for pricing received by the broker-dealer. For pricing communications that involve two broker-dealers, this process would, in many cases, involve extensive discussions between compliance personnel at the two broker-dealers to ensure consistent reporting (since inconsistent reporting would result in linkage errors). A firm will need to conduct this review not just for its desks that can provide pricing but also for desks that can receive pricing.

Today, these audit trails (telephone recordings and unstructured electronic communications) often are not available to surveillance personnel in real-time and instead are available on an end-of-day or next day basis. There will be a significant cost for firms to obtain and maintain ongoing access to these audit trails on a real-time basis. These costs are not included in the cost estimates set forth on Attachment I.

III. Further affirmative action

In the upstairs trading market, it is standard practice that when a broker-dealer and its customer agree on trade terms through a telephone or unstructured electronic communication, a trade cannot be executed without further affirmative action by the broker-dealer. Attachment IV provides scenarios where a broker-dealer communicates a price through an unstructured communication. In each case, trade execution is subject to certain subsequent affirmative actions by the broker-dealer, as set forth on Attachment IV. In each case, the communication of a price by the broker-dealer is made in connection with a negotiation between the two parties.

IV. CAT Technical Specifications and other documentation

A. General

The current CAT Technical Specifications, Reporting Scenarios and other documentation do not provide the necessary guidance for firms to commence work to report verbal quotes to CAT. For example, consider a scenario where a broker-dealer representative communicates a price to a customer through an unstructured communication (such as a chat), and the customer does not respond. If the broker-dealer is required to report the communication of the price as a CAT New Quote event, is the broker-dealer now required to report a Quote Cancel event to CAT? If so, what should be the timestamp for this Quote Cancel event? The broker-dealer and customer understand that any price communicated by the broker-dealer is not valid if current market conditions change, but expiration times are not communicated as part of this verbal negotiation process. A second scenario involves the following steps: a broker-dealer representative communicates a price to a customer through an unstructured communication; the customer, after a time period and in response to the unstructured communication from the broker-dealer representative, indicates her agreement to the proposed terms (to be confirmed through an order to be routed electronically by the customer to the broker-dealer); and the broker-dealer representative responds that the broker-dealer will not be able to execute the trade based on a change in market conditions. If the broker-dealer is required to report the communication of the price as a CAT New Quote event, is the broker-dealer now required to report a Quote Cancel event to CAT? If so, what should be the timestamp for this Quote Cancel event if market conditions had changed prior to the subsequent communications between the customer and the broker-dealer?

B. Options

The CAT Technical Specifications and other CAT documentation do not provide any events for reporting options quotes. Clearly, industry members cannot report New Quote events for options to CAT if the CAT system is not able to process these events. While this letter is focused on upstairs trading activity, we note that the current CAT documentation also does not provide sufficient guidance for reporting floor trading activity. For example, if an options floor trader communicates proposed trade terms on an exchange floor and there are five market makers on the floor at the time, is the floor trader required to report five order routes to different market makers for the same contracts? The current CAT documentation does not contemplate this type of workflow, where the same contracts are "routed" to multiple recipients simultaneously.[13] Beyond changes to the CAT documentation, FIF members note that changes to the CAT Transaction Reporting system will be required to allow for reporting of these workflows.

Given these considerations with respect to CAT reporting for options, and the considerations discussed below with respect to CAT reporting for equities, it is not realistic that reporting of verbal activity (if required) could be achieved by July 2023. As developments relating to the CAT Customer and Account Information System have demonstrated, setting unrealistic timelines without appropriate consideration for the complexity of the requirements will result in unnecessary costs and delays.

C. Equities

While the Technical Specifications provide events for reporting quotes in equities, these events are focused on scenarios involving OTC Link and the Alternative Display Facility and do not provide sufficient guidance outside of these two non-standard workflows. Section 4.10.1 of the Technical Specifications provides that the New Quote Event is used to report:

- "Quotes originated in OTC equity securities ultimately sent to an inter-dealer quotation system operated by an Industry Member
- Quotes originated in OTC equity securities ultimately sent to a quotation venue not operated by a CAT Reporter
- Any other electronic quotes which are provided by or received in a CAT Reporter's order/quote handling or execution systems in CAT reportable securities and are provided by an Industry Member to other market participants off a national securities exchanges, as described in CAT FAQ B45."[14]

The first two bullets only relate to Quote events for OTC equities. While the third bullet relates to Quote events for all stocks (listed and unlisted), the third bullet references FAQ B45 (which relates to responses to RFQs), and FAQ B45 does not discuss reporting of Quote events for listed stocks. In addition, the Reporting Scenarios (such as 2.16.2, 2.16.3 and 2.16.4) that correspond to FAQ B45 do not indicate that Quote events should be reported for these responses.[15] Further, the only Quote events included in the

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[13] See, for example, CAT Industry Member Reporting Scenarios, Version 4.10 (Oct. 21, 2022), https://catnmsplan.com/sites/default/files/2022-10/10.21.22_Industry_Member_Tech_Specs_Reporting_Scenarios_v4.10_CLEAN.pdf, Reporting Scenario 8.2.4, at 711-716.

[14] CAT Reporting Technical Specifications for Industry Members, Version 4.0.0 r 17 (Aug. 24, 2022), https://catnmsplan.com/sites/default/files/2022-08/08.24.2022_CAT_Reporting_Technical_Specifications_for_Industry_Members_v4.0.0r17_CLEAN.pdf.

[15] CAT Industry Member Reporting Scenarios, Version 4.10 (Oct. 21, 2022), at 423-434.

Reporting Scenarios relate to OTC equities. These Quote events also are focused on the non-standard trading workflows of a specific venue (OTC Link). Accordingly, the current CAT documentation does not provide sufficient guidance for firms to report verbal activity for equities.

D. RFQ responses

A requirement for firms to report the verbal communication of prices to CAT also is inconsistent with the guidance in the current CAT documentation relating to responses to Requests for Quotes (RFQs). The CAT Phase 2d Reporting Scenarios document makes clear that "… responses to RFQs or other forms of solicitation that are not immediately actionable are not required to be reported to CAT in Phase 2d."[16] The CAT Technical Specifications document provides similarly that "… Industry Members are not required to report the following manual activity in Phases 2c/2d: … [R]esponses that are communicated in standard electronic format directly to an Industry Member's OMS/EMS with an understanding that further action is required before a trade can be executed/routed (not immediately actionable)."[17] CAT FAQ B45 describes the concept of "immediately executable" as based on whether "further manual or electronic action is required by the responder providing the quote in order to execute or cause a trade to be executed."[18] Requiring that a broker-dealer's verbal communication of prices be reported to CAT when execution is subject to further affirmative action by the communicating broker-dealer is inconsistent with the guidance in the current CAT documentation that responses to RFQs are not reportable to CAT because they are not "immediately actionable" or "immediately executable". If prices communicated electronically through an RFQ response are not reportable to CAT, prices communicated to a single customer or single counter-party in an unstructured communication similarly should not be reportable to CAT. In both cases, the price communicated electronically is not immediately executable (or immediately actionable) because a further affirmative action by the communicating broker-dealer is required before an execution can occur.

On August 3, 2022 FIF, on behalf of FIF members, submitted to the Participants and FINRA CAT a request for guidance on the CAT reporting for RFQ responses that would apply after July 31, 2023.[19] The Participants and FINRA CAT have not responded to this request for guidance.

E. Implementation timeframe

The current implementation timeframe for reporting verbal quotes is not feasible at this time. As discussed above, the current CAT documentation does not provide the necessary guidance for firms to commence work to report verbal quotes to CAT. A significant time period will be required for publication of specifications. Upon publication of specifications, a significant timeline for implementation would be required. In addition to the work that firms must complete, the participants and FINRA CAT will need to

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[16] CAT Industry Member Reporting Scenarios, Scenario 2.16.2, Steps 3 and 4, at 423-427.
[17] CAT Reporting Technical Specifications, at 38.
[18] In other words, CAT reporting is not required if further affirmative action is required by the responder providing the quote in order to execute or cause a trade to be executed. CAT FAQ B45, https://catnmsplan.com/faq?search_api_fulltext=&field_topics=56&sort_by=field_faq_number.
[19] FIF submitted this request for guidance as a follow-up to prior requests for guidance submitted by FIF on January 12, 2022 and May 12, 2022.

implement changes to the CAT transaction reporting system to enable reporting of verbal activity. Given the complexity of the CAT Transaction Reporting system, industry members do not believe that these changes to the CAT reporting system could be implemented by July 31, 2022. Technology vendors also will need to perform significant work, including in relation to providing industry members with real-time access to voice and unstructured electronic communications. It is not feasible that this work, including changes to the CAT reporting system by the participants and FINRA CAT, could be completed by July 31, 2023.

V. Scope of CAT reporting

There are significant legal questions as to whether the types of verbal communications discussed in this letter are within the scope of CAT reporting. While this letter is not intended to provide a comprehensive analysis of this issue, it is important to highlight the current lack of regulatory guidance in this area.

Rule 613(j)(8) of Regulation NMS defines an order to consist of an order, bid or offer.[20] In designating these three categories, the Commission is apparently distinguishing between: (i) an order, where the receiving party can execute the order upon receipt; and (ii) a bid or offer, where the receiving party, if it wants to trade, must route an order to the party that communicates the bid or offer, and it is the party that communicates the bid or offer that can execute the customer's order. When a dealer communicates a price to an institutional customer in the upstairs market, this clearly is not the first type of order because the institution cannot execute against it. Instead, if the institution wants to trade on the terms proposed by the broker-dealer, the institution must route an order to the broker-dealer, and the broker-dealer can then elect to execute against the customer's order.

Communicating a price to an institutional customer in the upstairs market also should not be considered a bid or offer because a bid or offer under Rule 600(b)(11) expressly excludes indications of interest.[21] In its 2009 proposing release titled "Regulation of Non-Public Trading Interest" (the "2009 proposing release"), the Commission proposed "to amend the definition of 'bid' or 'offer' in Exchange Act quoting requirements to apply expressly to actionable indications of interest ('IOIs') privately transmitted by dark pools and other trading venues to selected market participants."[22] The Commission never adopted this rule proposal. Presumably, this indicates that actionable IOIs are not bids or offers under Rule 600(b)(11). The Commission writes in the 2009 proposing release that, "[t]his exclusion of IOIs was part of the definition of bid or offer when it was originally drafted in 1978 for inclusion in the predecessor of Rule 602. In the adopting release, the term 'indication of interest' was not defined, discussed, or expressly limited to a non-actionable communication of trading interest."[23] If actionable IOIs, which can be communicated simultaneously to multiple recipients, are not bids or offers, it would appear that a price communicated to a single customer or counter-party through an unstructured communication

[20] 17 CFR §242.613(j)(8).
[21] 17 CFR §242.600(b)(11).
[22] Exchange Act Release No. 34-60999 (Nov. 13, 2009), 74 FR 61208 (Nov. 23, 2009), at 74 FR 61208.
[23] Id.

where a trade cannot occur without a further affirmative action by the communicating party would not represent a reportable bid or offer. At a minimum there is a lack of clear guidance on this point.[24]

FINRA Rule 5220 also does not provide helpful guidance. Under FINRA Rule 5220, if a firm communicates that a quote is firm, it must abide by that quote. But Rule 5220 does not provide guidance as to the conditions under which a price communicated by a broker-dealer to a single customer or counter-party through an unstructured communication where a trade cannot occur without a further affirmative action by the communicating party would be considered a firm quote. The notices posted by FINRA on the FINRA website relating to Rule 5220 also do not provide guidance on this point.[25]

At a minimum, there is a lack of regulatory guidance as to when the communication of a price to a single customer or single counter-party would represent a bid or offer that must be reported to CAT. Given the wording of Rule 600(b)(11) and the discussion in the 2009 Commission release, under what circumstances would the communication of a price to a single customer or single counter-party in an unstructured communication represent reportable verbal activity when a further affirmative action is required by the broker-dealer communicating the price before an execution can occur? What written guidance (apart from the 2009 proposing release cited above) have the regulators provided to industry members on this topic? If there is other written guidance on this point, how have the regulators made this guidance known to industry members and other market participants? If the Commission considers that there is relevant regulatory guidance on this point, FIF would be interested to review and consider such guidance. Given the current lack of clarity as to when the type of verbal activity discussed in this letter would represent a bid or offer that must be reported to CAT, it would be highly problematic to require reporting of this activity.

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FIF and our members would appreciate the opportunity to discuss the issues set forth in this letter. Please contact me after you and your colleagues have had an opportunity to review this submission.

Very truly yours,

/s/ Howard Meyerson

Howard Meyerson
Managing Director, Financial Information Forum

Cc: Mr. Hugh Beck, Securities and Exchange Commission
Ms. Erika Berg, Securities and Exchange Commission
Mr. Austin Gerig, Securities and Exchange Commission
Mr. David Hsu, Securities and Exchange Commission

[24] The adopting release for CAT expressly excludes indications of interest from CAT reporting. Exchange Act Release No. 34-67457 (Jul. 18, 2012), 77 FR 45721 (Aug. 1, 2022), at 77 FR 45747.
[25] https://www.finra.org/rules-guidance/rulebooks/finra-rules/5220#notices.

Mr. Sai Rao, Securities and Exchange Commission
Mr. Andrew Sherman, Securities and Exchange Commission
Mr. David Shillman, Securities and Exchange Commission
Mr. Mike Simon, CAT Operating Committee
Ms. Jessica Wachter, Securities and Exchange Commission
Mr. Haoxiang Zhu, Securities and Exchange Commission

Attachment I
Verbal Activity Scenarios

The following scenarios are simple two party verbal or unstructured examples. Any of the conversations may be performed over a single method or over multiple methods of communications. The examples are also simple examples. Other examples may include separate communications with multiple parties as sales and traders gauge interest and try to build towards a trade. The point is machines will be unable to determine when and between whom a firm quote occurred. If traders, sales and other firm personnel are required to determine this and contemporaneously enter the information into a quote capture system, it would create a new workflow not contemplated in the CAT Adopting Release and a new books and records requirement. All such unstructured conversations would need to be subject to disclaimers or curtailed.

Scenario 1: price communicated for equity

Fund Manager (NM): Hey TJ, can you give me levels on Twitter
Equity Trader (TJ) : Hi NM, good to hear from you. What size are we looking at?
Fund Manager (NM) : I need to move close to 4% adv, looking for a bid
Equity Trader (TJ) : I see, we can do up to 500k at 35.50 at this market with 25c markup
Fund Manager (NM) : I'll sell 450k at 35.55, fok
Equity Trader (TJ) : Done, send me the order and I'll print it
Fund Manager (NM) : On your screen, now
Equity Trader (TJ) : Filled

Challenges:

- Symbol
- Original quote
- Quote modification

Scenario 2: price communicated for option; premium and strike price not explicit

Hedge Fund (JK): Need to buy NDX 10% down Nov22 puts
Options Trader (TK) : We are trading at 35.7 vol, 2 pct
Hedge Fund (JK): I am looking to buy about 15k
Options Trader (TK) : Let me see if we can move that size
Hedge Fund (JK): Sure, let me know where you are at
Options Trader (TK) : Best offer 1.975 pct, let me know if you want me to send it to the floor
Hedge Fund (JK): I'll take it, please go ahead. Send me the recap by 4.15
Options Trader (TK) : You got it

Challenges:

- 10% down

- Which option is being quoted
- “1.975 pct” represents a percentage of the “10% down” strike price
- “4.15” represents a time
- Capacity
- Quantity
- 35.7 vol

Scenario 3: price communicated for spread trade

Fund Manager (MS): Can you give me quote on 1k RUT 1700/1600 puts for Dec22 with 20d ref 1750 ?
Options Trader (TK) : Will do at 22.20 / 22.70 with 20d
Fund Manager (MS): I’ll buy, go ahead
Options Trader (TK) : Done

Challenges:

- Spread trade
- Request for a two-sided quote
- Each side of the quote represents four distinct options
- The quote for each side includes a delta hedge transaction for each side of the quote

Scenario 4: simultaneous voice and chat communications

Options Broker (BK): Ca va BH ? Bon long weekend ?
Options Trader (BH) : Super!
Options Broker (BK): Tu peux check ton niveau la dessu ?
Options Broker (BK): PSTH Oct 20 rc 0.11/0.15 c+
Options Broker (BK): Ton bid, Jai besoins de convert 5k
Options Broker (BK): Je cotinue
Options Broker (BK): PSTH Oct 20 rc 0.11/0.13 c+
Options Broker (BK): Il me demande pour .12 PSTH
Options Broker (BK): Je suis bid with aussi mais tu es first
Options Broker (BK): Je te get 7500x done .115 PSTH

Options Broker (BK): Ca va BH ? Bon long weekend ?
Options Trader (BH) : Super!
Options Broker (BK): Can you check your level the dessu?
Options Broker (BK): PSTH Oct 20 rc 0.11/0.15 c+
Options Broker (BK): Ton bid, Jai convert needs 5k
Options Broker (BK): Je cotinue
Options Broker (BK): PSTH Oct 20 rc 0.11/0.13 c+
Options Broker (BK): He asks me for .12 PSTH
Options Broker (BK): I'm bid with also but you're first
Options Broker (BK): Je te get 7500x done .115 PSTH

Challenges:

- Conversation is in French (2nd entry is translation to English)
- The Options Broker is communicating a request for a quote to the Options Trader; the Options Trader and the Options Broker simultaneously are on the telephone, and the Options Trader communicates the quote by telephone (price only)
- The Options Broker has a customer that wants to trade 7,500 contracts; the Options Broker is willing to take 2,500 contracts and is requesting that the Options Trader take 5,000 contracts
- “rc” and “c+”
- “20” (strike price)

Scenario 5: chat referencing terms from a separate FIX order transmission

[15:50:33 Client sends 2 electronic single leg orders for ABC puts; trader expects to discuss with client]
15:50:45 CLIENT: ABC put spread
15:50:57 FIRM TRADER: see
15:52:15 FIRM TRADER : @ 0.62 ref 73.19, -16d
15:53:06 CLIENT : looking for .60 - do you have any room?
15:53:11 FIRM TRADER : checking
15:54:12 FIRM TRADER : We can meet in the middle .61
15:54:16 CLIENT : go ahead
15:54:18 CLIENT : thx
15:54:19 FIRM TRADER : Done .61

Challenges:

- Chat references terms that are included in a separate FIX order transmission
- 73.19 and -16d are assumptions that underly the quoted price
- .61 as a modification

Scenario 6: price communicated by broker-dealer assumes intervening executions by client

2:38:34 PM Client: MPC sell 15k sept 23rd 97 put
2:40:07 PM BD: Checking
2:40:17 PM BD: have to be on way too big live
2:41:40 PM BD: see?
2:41:53 PM Client: on for what
2:41:57 PM Client: what do you want to do
2:41:59 PM Client: partial number/ size
2:42:02 PM Client: need to reflect
2:42:21 PM BD: million dletas with fomc meeting i mean its a bit crazy
2:42:38 PM BD: ref 96.9 i would pay 1.35 on 3k right here
2:42:43 PM Client: k
2:42:44 PM BD: but stock all over the place tons of exectuion risk

- There's an understanding between the BD and Client that when the BD shows 3,000, but the total order is for 15,000, that the BD is on a print (the BD will only trade 3000 if all 15,000 print). The Client knows that he cannot just hit the BD at 1.35 and print 3000 with 12,000 behind unless he explicitly checks with the BD first.
- There's an understanding with this Client that if this trade were to get to the point where they may print it, the Client needs to get the BD on the phone first to:
    - Confirm that the BD is still good at that price and
    - To let the BD know when the order becomes public in the crowd.
- All of this is based on past conversations with this particular Client, but there's no real way to know from the chat alone.
- Then some time passes, and the BD checks back in.

2:47:34 PM BD: mpc what we thinking?

- At this point the Client calls the BD and there are a few different phone conversations that follow with a lot of back and forth with the Client asking for bids, the BD responding, and then hanging up. As this occurs, the Client is working sales electronically on behalf of the customer.
- There's another understanding with the Client that the BD's bids are not firm as the order is being worked electronically and so throughout this process as the BD is quoting over the phone, there's an understanding that nothing is firm or tradable without a confirmation so long as the order is simultaneously being worked electronically.
- Eventually, the Client gets down to just 2000 remaining, at which point the two parties got on the phone and agreed on a price verbally for the last 2000 and traded, with the BD getting 1600 of the final print.

3:25:10 PM Client: MPC annc
3:29:39 PM Client: MPC report / amex
MPC Sep 09/23/2022 97 P B 1600 1.6500
3:30:28 PM BD: MPC in mm acct QMDF thanks

- This conversation spanned about 45 minutes from start to finish and included multiple quotes and phone calls as the market was in motion.

Scenario 7: simultaneous discussion of multiple possible structures

10:09:19 AM Client: FENC Oct 5p buyer 5k - im prepared to show @ 1.05 ref 6.95 -- lmk if you can show 2k/5k again - ty
10:09:29 AM Client: cust passed 1.10 yest
10:09:40 AM Client: i dont have an order, going into the cust - ty
10:10:47 AM Client: FENC Oct 5p buyer 5k
10:10:50 AM Client: see me?
10:10:55 AM BD: yea checking
10:11:05 AM Client: thanks

10:12:38 AM BD: fenc u have any feel for his total picture?
10:12:56 AM BD: if would have appetite to do more in the future etc
10:12:58 AM Client: i dont but will ask
10:26:58 AM Client: FENC i just spoke to the cust. his goal is to be short 1m shares, he's already short 500k via the nov puts. if we can offer 5k oct puts there will be no more behind that
10:28:19 AM Client: FENC oct 5p buyer 5k
10:28:29 AM Client: see above - lmk if u can show 2k/5k @ 1.05
10:29:27 AM BD: yup
10:29:32 AM BD: ill let u know in one min
10:29:42 AM Client: cool thanks
10:32:27 AM BD: i can show 2k fenc at 1.075 ref 6.93
10:48:00 AM Client: FENC now looking to roll nov 5p into oct 5p 5k x 10k i have @ .80 for half, lmk if u can do 2k there
10:51:20 AM Client: you have half this nov FENC so, lmk how you want to handle

- At this point there are multiple phone conversations that take place over the next 40 minutes with the Client where they go back and forth between quoting the outright October puts, the roll, and alternative structures that the Client's customer might want to trade.
- In total the BD shows the Client 6 different levels over this time period, often for multiple structures at once, where the BD wasn't sure what the Client's customer wanted to do. Eventually, the BD and Client agree on trading the roll at .95.

11:30:13 AM Client: FENC .95 trading you'll be 20% of the cross
11:34:18 AM Client: FENC crowd took 15% -- 850x u
11:45:34 AM Client: FENC on BOX
sld 1,700 FENC oct 21 2022 5 puts @ $1.00 to close w/ commission $0.50
bot 850 FENC nov 18 2022 5 puts paid $1.05 to close w/ commission $0.50
11:46:46 AM BD: FENC MM ACT QMDF thanks

Attachment II

Challenges with Natural Language Processing (NLP) for Reporting Verbal Activity

- There is no definitive way to avoid false positives and false negatives in NLP. This would contribute to inaccurate results due to less than perfect f-score on any NLP model. F-score is a measure of an NLP model's accuracy on a given dataset.
- Formal programming languages are defined for precision, giving definitive output for well-defined input. Natural language is an always evolving model, and hence it is a model that results in a statistical probabilistic outcome rather than deterministic one. This is not well-suited for a regulatory requirement of providing accurate reporting for every event.
- There are significant challenges involved with having to use a combination of multiple language models that solve speech recognition, machine translation, language parsing and sentiment analysis.
- Although there are good frameworks like PyTorch and TensorFlow and toolkits like NLTK, Google Cloud NL API, and spaCy available to build language-specific models, equities and options trading uses extremely niche trading-specific written and spoken linguistics that are very different than current language NLP models can handle. Also trading specific linguistics is a very scarce-resource language, where there is very little widely available data to train a learning model.
- Synonymous symbologies and lingos are conversed by different set of traders on both the buy and sell sides of negotiations (in other words, two individuals can develop specific terminology for communicating with each other that is not extendable for communications involving other individuals). This creates challenges every time there is a conversation with a new client or when new traders join a firm.
- The challenges faced by relatively smaller firms that do not have their own machine learning or data science experts must be considered. It is extremely hard to hire competent teams of experts in this area.
- Experts in a language are the ones that use it (i.e., in this case, the traders). Traders would need to expend significant time to train any NLP model. The amount of time required is unrealistic given the primary trading responsibilities that traders have.
- Traders can communicate over chat and phone at the same time with a client. Even the most advanced recurrent neural networks would have challenges to represent contexts across distinct media into a single reportable structure.

Attachment III
Industry Cost Projections

Industry Cost Projections (2022)

(SEC) Firm Type	Est. Firm Size	# Firms (SEC)	Est. % firms manually quoting	Est. # Traders / Firm	Estimated Total # Traders	Cost Per Compliance Employee	Total Annual Cost
Insourcers	Large	126	50%	50	3,150		
Outsourcers	Medium	806	25%	20	4,030		
New (non-OATS reporting firms)	Smaller	799	10%	2	160		
Options MM		31	100%	50	775		
ELP		14	100%	10	140		
Options Floor Brokers		24	100%	220 total	220		
Totals		413 Total Firms			8,475 Total Traders	$522,651	$4,429,467,225

Modeling Assumptions

Firm Type is a proxy for Firm Size

One additional Compliance employee required per trader at $522,651/year ($425,000 increased by 3.61% average annual inflation from September 2016 to July 2022)

Total annual costs to capture negotiations: $4,429,467,225

Industry Cost Projections (2018)

(SEC) Firm Type	Est. Firm Size	# Firms (SEC)	Est. % firms manually quoting	Est. # Traders / Firm	Estimated Total # Traders	% Heavy / Light Quoters	# Heavy / Light Quoters	Productivity Loss
Insourcers	Large	126	50%	50	3,150			
Outsourcers	Medium	806	25%	20	4,030			
New (non-OATS reporting firms)	Smaller	799	10%	2	160			
Options MM		31	100%	50	775			
ELP		14	100%	10	140			
		1,800			8,255	10% Heavy Quoters (15% loss)	825 Heavy Quoters	123

(SEC) Firm Type	Est. Firm Size	# Firms (SEC)	Est. % firms manually quoting	Est. # Traders / Firm	Estimated Total # Traders	% Heavy / Light Quoters	# Heavy / Light Quoters	Productivity Loss
						90% Light Quoters (5% loss)	7,429 Light Quoters	371
Options Floor Brokers		24	100%	220 total	220	All with 50% loss		110
Totals		413 Total Firms						604 Add'l Traders Needed

<u>**Modeling Assumptions**</u>

Firm Type is a proxy for Firm Size

Potential Increase in Trader Assistants

1:2 for Open Outcry and Heavy Quoters (110+407)

1:15 for Light Quoters (495)

Add'l Compliance Staff – 20 to 1 ratio to traders

Costs/employee

$425K/yr Trader Asst + Compliance Staff

$565K/yr Traders

Quote Capture Systems = $500K / manual quoting firms only

Elements of Cost	Costs
Add'l Traders (604) or assistants (1,012) for Productivity Loss	$341M to $430M
Add'l Compliance Staff (30)	$13M
Quote Capture Systems	$207M
Total Cost to Capture Negotiations	$560M to $650M

Attachment IV
Further Affirmative Action

Equities scenarios

- Scenario E1
    - Customer creates and routes FIX order to broker-dealer
    - Broker-dealer systems accept customer FIX order
    - Broker-dealer executes customer order against inventory
- Scenario E2
    - Broker-dealer systems create customer order
    - Broker-dealer systems execute customer order against inventory
- Scenario E3 (variation of E1)
    - Customer creates and routes FIX order to broker-dealer
    - Broker-dealer systems accept customer FIX order
    - Market moves against customer (for example, parties agreed to customer buy of 50K shares at $15.00, and NBB is now $15.05)
    - Broker-dealer does not execute order
- Scenario E4 (variation of E2)
    - Broker-dealer systems create customer order
    - Market moves against customer (for example, parties agreed to customer buy of 50K shares at $15.00, and NBB is now $15.05)
    - Broker-dealer does not execute order
- Scenario E5 (variation of E1)
    - Customer creates and routes FIX order to broker-dealer
    - Broker-dealer systems accept customer FIX order
    - Market moves in favor of customer (for example, parties agreed to customer buy of 50K shares at $15.00, and NBO is now $14.98)
    - Broker-dealer buys in market between $14.98 and $14.99 and sells equivalent number of shares to customer at that price (as riskless principal); broker-dealer sells remaining shares to customer at $15.00 (as principal)
- Scenario E6 (variation of E2)
    - Broker-dealer systems create customer order
    - Market moves in favor of customer (for example, parties agreed to customer buy of 50K shares at $15.00, and NBO is now $14.98)
    - Broker-dealer buys in market between $14.98 and $14.99 and sells equivalent number of shares to customer at that price (as riskless principal); broker-dealer sells remaining shares to customer at $15.00 (as principal)

Options scenarios

- Scenario O1
    - Customer creates and routes FIX order to broker-dealer
    - Broker-dealer systems accept customer FIX order

  - Broker-dealer systems create firm order
  - Broker-dealer routes crossing order (customer vs. firm) to exchange
  - Note: exchange market makers can participate in portion of execution in place of broker-dealer
- Scenario O2
  - Broker-dealer systems create customer order
  - Broker-dealer systems create firm order
  - Broker-dealer routes crossing order (customer vs. firm) to exchange
  - Note: exchange market makers can participate in portion of execution in place of broker-dealer
- Scenario O3 (variation of O1)
  - Customer creates and routes FIX order to broker-dealer
  - Broker-dealer systems accept customer FIX order
  - Market moves against customer (for example, parties agreed to customer buy of 500 contracts at $1.00 premium, and NBB is now $1.05)
  - Broker-dealer does not route crossing order to exchange
  - In some cases, broker-dealer goes back to customer with new offer
- Scenario O4 (variation of O2)
  - Broker-dealer systems create customer order
  - Market moves against customer (for example, parties agreed to customer buy of 500 contracts at $1.00 premium, and NBB is now $1.05)
  - Broker-dealer does not route crossing order to exchange
  - In some cases, broker-dealer goes back to customer with new offer
- Scenario O5 (variation of O1)
  - Customer creates and routes FIX order to broker-dealer
  - Broker-dealer systems accept customer FIX order
  - Broker-dealer systems create firm order
  - Market moves in favor of customer (for example, parties agreed to customer buy of 500 contracts at $1.00 premium, and NBO is now $.99)
  - Broker-dealer, acting as agent for customer, routes buy order to purchase contracts in market at $.99; broker-dealer routes crossing order to exchange for the remaining contracts
  - Note: exchange market makers can participate in portion of crossing execution in place of broker-dealer
- Scenario 06 (variation on O2)
  - Broker-dealer systems create customer order
  - Broker-dealer systems create firm order
  - Market moves in favor of customer (for example, parties agreed to customer buy of 500 contracts at $1.00 premium, and NBO is now $.99)
  - Broker-dealer, acting as agent for customer, routes buy order to purchase contracts in market at $.99; broker-dealer routes crossing order to exchange for the remaining contracts
  - Note: exchange market makers can participate in portion of crossing execution in place of broker-dealer