



July 18, 2016

Mr. Brent J. Fields
Secretary
Securities and Exchange Commission
100 F Street, N.E.
Washington, D.C. 20549-1090

Re: National Market System Plan Governing the Consolidated Audit Trail (Release No. 34-77724; File No. 4-698)

Dear Mr. Fields:

Better Markets¹ appreciates the opportunity to comment on the above-captioned plan (“Proposed Plan” or “CAT Plan”) developed by a consortium of industry market participants and released for comment by the Securities and Exchange Commission (“SEC” or “Commission”).

It is long past time that the SEC had readily at its disposal a state of the art system for tracking trade data across all of the venues that comprise our national market system. As has been well known – and evidenced – for far too long, the SEC simply cannot fulfill its core missions of protecting investors, maintaining the integrity of our markets, and facilitating capital formation without such a system. The issuance of the CAT Plan is an attempt to make forward progress, but it is in fact a halting step in the wrong direction.

Specifically, the CAT Plan raises two fundamental concerns. First, it would be owned, controlled, and operated by the for-profit industry, which is riddled with conflicts of interest, rather than the SEC which is statutorily required to prioritize the public interest. Second, the performance specifications of the CAT Plan indefensibly fall well short of what is necessary and technologically possible. It is as if the SEC wants to remain in the horse and buggy 19th Century while the markets and private sector move at the 21st Century speed of light. Building such a disadvantage into the CAT Plan at the beginning means that the SEC simply will never catch up with the industry and likely never be in a position to fully and properly protect investors and markets.

¹ Better Markets is a non-profit, non-partisan, and independent organization founded in the wake of the 2008 financial crisis to promote the public interest in the financial markets, support the financial reform of Wall Street, and make our financial system work for all Americans again. Better Markets works with allies—including many in finance—to promote pro-market, pro-business, and pro-growth policies that help build a stronger, safer financial system that protects and promotes Americans’ jobs, savings, retirements, and more.

The SEC must address these problems before finalizing and implementing any plan and the CAT Plan in particular.

BACKGROUND

In 2012, the Commission adopted Rule 613 of Regulation NMS² under the Securities Exchange Act of 1934, requiring national securities exchanges and national securities associations (also known as self-regulatory organizations (SROs)) to jointly submit a national market system (“NMS”) plan—

“to create, implement, and maintain a consolidated order tracking system, or consolidated audit trail, with respect to the trading of orders in NMS securities, 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.”³

In adopting Rule 613, the Commission reflected on the difficulties of performing its oversight responsibilities in today’s complex, dispersed, and highly automated national market system, especially when it needs to piece together “disparate data from a variety of existing information systems lacking in completeness, accuracy, accessibility, and or timeliness.”⁴

The Flash Crash in May of 2010 vividly illustrated the need for a much more comprehensive, coherent, and accessible data trail. After the Flash Crash, it took the SEC and the Commodity Futures Trading Commission (CFTC) over four months and thousands of staff hours to reconstruct the events that spanned less than 18 minutes, largely because the SEC had neither the tools nor the data to understand how and why the stock market experienced its steepest intra-day drop ever.⁵ Events like the Flash Crash can “dramatically erode investor confidence and participation in the capital markets for years to come, leading to reduced liquidity and higher transaction costs.”⁶

In fact, since 2010, we have witnessed other sudden and major trading upheavals that have indeed shaken the confidence of investors in the markets. In April 2013, the S&P lost \$121 billion in value after the AP twitter account was hacked and posted false, market-moving reports.⁷ Markets were again thrown into uncertainty on August 24th, 2015 when 40% of NASDAQ-100 companies hit daily lows that were more than 10% below previous day closing price and over 19%

² Securities covered by Reg NMS, include, “any security or class of securities for which transaction reports are collected, processed, and made available pursuant to an effective transaction reporting plan, or an effective national market system plan for reporting transactions in listed options.” 17 C.F.R. § 242.600.

³ See Securities Exchange Act Release No. 67457 (July 18, 2012). Available at <https://www.sec.gov/rules/final/2012/34-67457.pdf>.

⁴ See id., p. 6.

⁵ Although we note that the arrest of Navinder Singh Sarao in London raises serious questions about the quality and validity of that reconstruction and the conclusions drawn from it. See, e.g., <https://next.ft.com/content/6bdd4198-44c5-11e5-b3b2-1672f710807b>. The article discusses strategies Mr. Sarao used to manipulate the markets which were not discovered by the SEC/CFTC in time for their Flash Crash report.

⁶ See “Exchange-Traded Funds, Market Structure, and the Flash Crash.” Ananth Madhavan. Financial Analyst Journal, Vol 68, No. 4, p.20, (2012).

⁷ See “[Twitter Speaks, Markets Listen and Fears Rise](#)” Amy Chozick and Nicole Perlroth. New York Times, April 28, 2013.

of Exchange Traded Funds (ETFs) experienced price swings large enough to trigger limit up-limit down trading pauses.⁸

As important, the SEC needs the CAT not only to understand and potentially prevent breakdowns in trading markets, but also to rid the markets of increasingly abusive trading practices. Addressing those practices would restore investor confidence, attracting them back into the markets, which in turn should fuel capital formation.

Against this backdrop, and following multiple calls by policymakers, the Commission adopted Rule 613, under Reg NMS, which setup the framework of the current CAT NMS proposal.

More than three years after the adoption of Rule 613, the SROs submitted to the Commission the “Joint Industry CAT NMS Plan.” More than a year after that submission, the Commission in April 2016 – almost six years after the May 2010 “Flash Crash” – released the above captioned Plan for public comment and consideration. Assuming the timeline laid out in the Plan is achievable, we will still need to wait until November 2017 for the exchanges to begin reporting data to the CAT, and then another four years, until 2021, for other market participants to begin reporting **reliable** data to the CAT.⁹

Thus, between the Flash Crash of 2010, when it became glaringly obvious that regulators lacked access to comprehensive, accurate, and timely trading data,¹⁰ and the time when CAT may begin providing such data, 11 years will have elapsed. The Empire State Building was built in two years. The Hoover Dam was built in four years. And the Manhattan Project was completed in seven. Unfortunately, inexplicably, the SEC chose to outsource the responsibility to the industry and the SROs.

Notwithstanding the inexcusable amount of time it is taking to develop a CAT system, further delay is necessary if the goal is to get it right. The governance of the CAT must not be riddled with conflicts of interests, and the technology it uses must not be outdated the day the CAT becomes operational, as will assuredly be the case under the current proposal and timeline. Our comment letter will focus on these two themes.

SUMMARY

⁸ See “[Research Note: Equity Market Volatility on August 24, 2015](#)” Staff of the Office of Analytics and Research, Division of Trading and Markets. Securities and Exchange Commission, December 2015.

⁹ The Plan contemplates giving small industry members another four-year grace period between 2017-2021 during which they can report data that is at best only 95% accurate.

¹⁰ The SEC and CFTC, in their report explaining the causes of the Flash Crash wrote: “Of final note, the events of May 6 clearly demonstrate the importance of data in today’s world of fully-automated trading strategies and systems. This further complicated the many sources of data that must be aggregated in order to form a complete picture of the markets upon which decisions to trade can be based. Varied data conventions, differing methods of communication, the sheer volume of quotes, orders, and trades produced each second, and even inherent time lags based on the laws of physics add yet more complexity. Accordingly [...] going forward focus should be on the integrity and reliability of market centers’ data processes, especially those that involve the publication of trades and quotes to the consolidated market data feeds.”

The CAT Plan, as proposed, will not stand the test of time and its governance falls woefully short of what is needed to ensure that the mission of the SEC is advanced by such a potentially powerful tool like the CAT. If the CAT Plan is adopted by the Commission as is, the Commission will hand over the ownership, management, and control over mission-critical data to a private corporation, removed from SEC's direct oversight and control. The implications are serious and unacceptable. For example, the "access keys" to the CAT system and data will be in the hands of the industry, and they are to provide limited number of user accounts to the SEC; SEC's access to the CAT system and data is limited to its regulatory functions (and could potentially exclude analytical or academic needs); the CAT NMS corporation may charge the SEC for accessing the CAT system and its data; the SEC will be excluded from the governance of the CAT Plan; the CAT Plan Participants may dismiss the Plan Processor with no notice to the SEC; and the Plan Participants may make material changes to the functions and operations of the CAT NMS system (or matters related to the CAT data).

If those egregious deficiencies were not sufficiently fatal, the CAT Plan's next-day reporting regime and the lack of a real-time reporting requirement essentially render the tool useless for the purposes of prevention, surveillance, and rapid response to Flash Crash-like market events. Moreover, the CAT Plan's tolerance for error is unjustifiably high, and its further leniency towards "Small Industry Members" – which would easily constitute a majority of CAT's data Reporters – is misguided. Below we elaborate on these and other technology issues by addressing questions the Commission raised.

COMMENTS

The proposed organization, governance, and managerial structure for the CAT, including funding and access to its data, is unacceptable.

According to the proposed CAT Plan, the SROs will jointly form and own a Delaware corporation called CAT NMS, LLC. This private corporation will be managed by an Operating Committee comprised of only the Plan Participants¹¹ – the SEC itself will not have a seat at the Operating Committee's table. After the SEC approves the CAT Plan, the Operating Committee will select a Plan Processor. The Plan Processor then will build and maintain a Central Repository, which will receive and consolidate data from the Plan Participants and over 1,800 registered broker-dealers (Industry Members or CAT Reporters). The CAT will be funded by Industry Members and Plan Participants. Its data will be accessible to the Plan Participants, some of which are affiliated with broker-dealers, and to the SEC for regulatory purposes only. Worth remembering that many of these Plan Participants have been sanctioned by the SEC for various violations of the securities laws.¹² And secondly, many of these Participants have developed

¹¹ As of this writing, the Plan 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; 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.

¹² See "SEC Charges Direct Edge Exchanges [owned by BATS Exchange] With Failing to Properly Describe Order Types." **Penalty: at least \$14 million.** See, also, "SEC Charges NYSE, NYSE ARCA, and NYSE MKT for Repeated Failures to Operate in Accordance With Exchange Rules." **Penalty: at least \$4.5 million.** See, also,

profitable business models cashing in on selectively providing information and disadvantaging certain market participants over other market participants. These simply are not the for-profit businesses that should be put in charge of and in control of CAT and its data, which will be a treasure trove of information for any for-profit company seeking to maximize profits (as opposed to the SEC with its mission of upholding the public interest).

The public interest and the SEC's own mission will be ill-served if the Commission decides to cede control of the CAT system and ownership of SEC mission-critical data to an exclusively industry-owned corporation. As **the** regulator of our capital markets, the SEC must be maximally empowered and independent from the profit-maximizing industry to protect investors, to strengthen the structure of modern day markets, and to remain accountable when it fails in its mission.

The CAT system and its data can potentially become a game-changer for the SEC. The tool can be used to not only surveil the markets and reconstruct market events to gain a deeper understanding of anomalies, but, perhaps even more consequentially, the tool can be used to detect and disrupt manipulative and unfair practices that harm many investors for the profit of a few traders. In short, it can help the Commission protect investors and level the playing field. And, yet, right from the onset, the Commission relinquishes the design, operation, and future enhancements to the system to outsiders, including the very for-profit businesses that reportedly engage in manipulative and unfair practices.

To illustrate the point, consider that the CAT Plan proposes that each Participant "will develop and implement [its own] surveillance system" that will be plugged into the CAT system. And each Participant will gain access to the CAT data. That would be like our intelligence services allowed the very entities that are to be surveilled to design and control the means and the data of such surveillance and oversight.

The Commission must reject the Plan's organizational and governance structure. The Commission may choose to outsource the building of the CAT system, as it currently does with its other IT systems, but it must host the system in-house, under its direct and sole control, retaining the prerogative to grant (or deny) access of the data to non-broker-dealer affiliated SROs. If the Commission believes it is necessary and appropriate, the Commission may enlist the already-formed Development Advisory Group (DAG)¹³ to support and advise the Commission, as it selects the contractor or a consortium of contractors that will build the CAT according to the specifications in Rule 613.

As to funding, modeled after SEC's own EDGAR system, the costs of building and maintaining the CAT should still come from the Reporters in a form of filing or technology fee.

"SEC Charges NASDAQ for Failures During Facebook IPO." **Penalty: at least \$10 million.** See, also, "SEC Charges New York Stock Exchange for Improper Distribution of Market Data." **Penalty: at least \$5 million.**

¹³ The Development Advisory Group is comprised of the Plan Participants and 27 other industry representatives. We note that there is no indication that the SEC has consulted with or benefited from the expertise of the Office of Financial Research, or included them in the DAG. One of OFR's key missions is to support federal agencies in collecting and standardizing financial data. Their experts can add valuable input on questions about design and testing on the reporting and consolidation systems, and format and storage of the resulting data.

In addition, the SEC should consider imposing a special usage fee on Reporters with high order cancellation rates and on those who engage in behaviors that may add noise into the CAT system.

In the alternative, the SEC must radically reconstitute the governance structure to reduce the industry's and SROs' dominance and increase the SEC's and public's representation in the governance of CAT NMS, LLC. The Commission must alter the charter and corporate identity of the CAT NMS, turning it into a not-for-profit organization, and align its mission to that of the SEC. The not-for-profit then must be led by a Board, the super-majority of which will be strictly independent directors. The chair of the Board must be a non-industry person appointed by the SEC. The Director of the Division of Trading and Markets must serve on the Board as a permanent vice-Chair. The newly formed not-for-profit organization can decide to maintain the DAG to advise and support CAT. The SEC should then solely control access and usage of the CAT system.

Whichever approach the SEC takes, it must alter the CAT Plan to ensure that the CAT is properly managed and controlled by the SEC for the sole benefit of investors and the national market system as a whole.

Some of the operational and technical aspects of the CAT Plan are also unacceptable.

Timeliness of Data Reporting: Reporters should be required to provide real-time or near real-time reporting.

The CAT Plan requires that Participants report data to the Central Repository by 8 a.m. on the next trading day. For example, a trade (or any other reportable event) completed at 9:30 a.m. on a Friday on an exchange would not have to be reported into the CAT system until the following Monday at 8 a.m. – 70.5 hours after the trade has occurred. And delays for hours or close to a full day would presumably be commonplace. Today, FINRA's TRACE and other systems require much faster reporting, ranging from 10 seconds to 15 minutes on trade transactions. The CAT Plan offers no convincing justification for the extraordinarily lax reporting time frame, particularly given that market participants have real time access to the information and electronic transmission of it would only take seconds if not nanoseconds.

Real-time, or near real-time would allow for much more robust surveillance and quicker reaction time. As suggested by experts at Lawrence Berkeley National Laboratory, there are reliable measurement methods that can be devised with the help of a high performance computer system that would provide regulators with early warnings of an impending Flash Crash-like event. These methods might provide as much as an hour of lead time, enabling regulators to intervene to pre-empt or mitigate such crashes. These can only work when the CAT receives real-time or near real-time reporting, and is able to consolidate such data for monitoring and surveillance. In a study they write:

“Current post-Flash Crash regulatory approaches are based on ‘circuit breakers,’ which suspend trading when price or volatility triggers set them off. These are very ‘blunt instruments’ that do not allow the market to self-correct and stabilize, and they can easily make a bad situation worse. Our tests showed that [certain methods outlined in the study]

could provide early warning signals for a more gradual ‘slow down, rather than stop’ replacement for on/off circuit breakers.”¹⁴

Without real-time reporting functionality, the CAT will serve at best as a data archive, not a meaningful surveillance system that could help the SEC detect unstable trading patterns, avert flash crashes, and halt abusive trading practices while they are in progress.

Futures Data: The CAT Plan must include futures data.

As proposed, the CAT will not include futures data, which is a glaring omission. The SEC and other regulators concluded that the Flash Crash itself was caused by a futures contracts trade.¹⁵ In other words, even if we had a fully operational CAT at the time of the flash crash, CAT’s database would not have included the necessary dataset to enable the SEC and the CFTC to conduct an audit to learn the identity of the trader or the type, timing, and size of the order – basically, the causes of the crash.

Single Processor: The Plan should provide that the Plan Processor’s contract is re-opened every five years to ensure the Plan remains state-of-the-art.

In discussing the Plan Processor’s selection and development, the Commission asks in the release whether there are “adequate and appropriate incentives for continuous CAT innovation and cost reductions” if there is a single Plan Processor. This is a legitimate concern. To prevent the stagnation of the CAT system and encourage innovation, the Commission should consider re-opening the Plan Processor’s contract every five years and providing a process for public input. This will force the SEC to re-evaluate the performance of the system and the Plan Processor at least periodically, with the benefit of public input. If the incumbent is again selected, the Commission can provide its reasoning to the public. In addition, the SEC should have access to any information it needs on an on-going basis to assess the performance of the system and the Plan Processor, and the authority to intervene whenever appropriate and necessary.

Data Format: Reporters should be required to use a uniform data format.

The Commission should mandate the most widely used, open-sourced, machine-readable data format possible. All CAT Reporters should be required to use that format. Without such a uniform format, accuracy of the data and speed of consolidation will suffer. Some have argued that a shift to uniform data standards would “improve accountability to investors, allow public companies to automate compliance tasks, and enable the use of data analytics tools by SEC staff,” and would “deliver benefits to investors, companies, and the Commission itself that are disproportionate to the resources invested.”¹⁶ While not applicable to independent agencies, President Obama has even issued the Executive Order of May 9, 2013¹⁷ and Agency Memorandum

¹⁴ See “Federal Market Information Technology in the Post Flash Crash Era: Roles for Supercomputing.” Bethel, E. Wes; David Leinweber; Oliver Rubel; and Keshenq Wu. Lawrence Berkeley National Laboratory. (2011).

¹⁵ See “Findings Regarding the Market Events of May 6, 2010” by the staff of the SEC and CFTC available at <https://www.sec.gov/news/studies/2010/marketevents-report.pdf> (2010).

¹⁶ See Data Transparency Coalition Letter to the SEC at <https://www.sec.gov/comments/disclosure-effectiveness/disclosureeffectiveness-55.pdf>.

¹⁷ See The White House, “[Executive Order -- Making Open and Machine Readable the New Default for Government Information](#)” May 09, 2013.

requiring “agencies to collect or create information in a way that supports downstream information processing and dissemination activities.”¹⁸ With the CAT system, the SEC has an opportunity to set 21st century data standards and follow the trends set for other Federal agencies.

Time Granularity: Some reportable events should have a more precise granularity.

The CAT Plan requires Reporters to record and report the time of each event at one millisecond resolution. With a significant portion of today’s trades occurring at microseconds intervals, the proposed time-stamp’s resolution will be insufficient to show the precise time of the reportable activities. With millisecond time-stamps, the activities that occur within microsecond frequency will be rounded up, in the process blurring the time granularity and losing useful information. For some practices, such as cancellations, stuffing, and other “noisy” behaviors, which HFT traders rely upon, the Commission should require a more precise granularity to more comprehensibly and accurately capture the frequency and scale of such practices.

Clock Synchronization: Reporters should synchronize their clocks more precisely.

According to the Plan, all Reporters must sync their CAT business clocks “used to record the date and time of any Reportable Event” within 50 milliseconds of the time maintained by the National Institute of Standards and Technology. Today, firms that receive direct feeds from exchanges have a more precisely synchronized clocks than the CAT Plan proposes (some as precise as 1 **microsecond**).¹⁹ There is no technical reason why the Commission should not require a much more precise clock synchronization. At the minimum, the Commission should require the same best time-accuracy and resolution as the firm or the exchange has adopted, used or is available for its internal and/or commercial purposes.

Treatment of Manual Orders: The Commission should establish anti-gaming provisions.

The CAT Plan allows for a one second time resolution for “manual orders.” The Commission should establish provisions to prevent gaming of this option, such that Reporters do not program or script their algorithms to imitate a “manual” order, while in fact executing it in an automated fashion.

Use of LEI: The Commission should require use of LEI.

As proposed, the CAT does not require the use and reporting of Legal Entity Identifiers (LEI) of Reporters and their Customers. The Commission should mandate the use of LEI whenever applicable. As the adoption of LEI widens, regulators of financial markets – both U.S. and non-U.S. – can quickly conduct audits. Some have even argued that the use of LEIs can reduce costs for industry in collecting, cleaning, aggregating, and reporting data to government regulators; reduce private firms’ operational risks and improve their internal risk management; and enhance industry’s market discipline.²⁰

¹⁸ See The White House, “[Memorandum for the Heads of Executive Departments and Agencies: Open Data Policy- Managing Information as an Asset](#)” May 9, 2013.

¹⁹ According to one time-synchronization expert we spoke to, all major exchanges and largest Wall Street firms (constituting over 90% of the trading volume) have time resolutions and accuracy of 1 microsecond.

²⁰ See Treasury Department, “[Frequently Asked Questions: Global Legal Entity Identifier \(LEI\)](#)” August 2012.

Customer IDs: The Commission should require use of universal customer identification.

Rule 613 allowed CAT NMS, as an alternative to a universal customer ID, to adopt a “Customer Information Approach” which would permit broker-dealers to assign their own, firm-based customer IDs, and use those when reporting to the CAT. The Commission should require a universal customer ID to aid in the accuracy, integrity, and consolidation of CAT data. Firm-based IDs will significantly increase the complexity and fragmentation of the dataset, slowing down consolidation. A universal customer ID will also greatly assist the Commission or SROs to reconstruct events and precisely trace reportable events to the violator of law.

Error Rates: The Commission should tolerate a very low error rate from the outset and treat all Reporters equally.

As proposed by the CAT Plan, Reporters will be allowed to report erroneous data. The CAT Plan proposes to have a discriminatory error-rate tolerance schedule: For the first year, Plan Participants (i.e., the exchanges) will be permitted to have a 5% error rate, while Large and Small Industry Members will have a limitless error rate; for the second year, Plan Participants’ error rate will be lowered to 1%, while the error rate for Large Industry Members will be lowered to 5%, and Small Industry Members will, again, have a limitless error rate; for the third year, Plan Participants and Large Industry Members will have a 1% error rate and Small Industry Members a 5% error rate; and finally, only in year four will all reporters have a 1% error rate.

In the proposing release, the Commission notes that FINRA’s Order Audit Trail System (OATS), a 20-year old system that serves a purpose similar to the one envisioned for CAT, has less than a 1% error rate. Given industry’s experience with OATS, there is no technical reason why the CAT should have such high interim or final error rates. Similarly, the Commission suggests no compelling reason why Small Industry Members – which will account for more than half of all Reporters – should be excused from low error rate requirements. Small Industry Members are broker-dealers with “total capital (net worth plus subordinated liabilities) of less than \$500,000 on the date in the prior fiscal year.”²¹ The Industry CAT NMS Plan filed with the SEC on February 8, 2016, included a survey of potential CAT Reporters, in which of the 167 respondents, 118 had identified themselves as Small Industry Member.²² Given their size range, and the massive amount of data they collectively represent, accurate data from these market participants is critically important for purposes of surveillance and reconstruction of market events. If the CAT system is replete with erroneous, missing, or incomplete data – as is possible for the first two years when a majority of CAT Reporters will be permitted to have limitless error rates – then the utility of the system will be significantly impaired. The result will be a further de facto delay in the completion of the CAT system.

CONCLUSION

²¹ 17 C.F.R. §240.0-10(c)

²² See Appendix C, p. 49 of “National Market System Plan Governing the Consolidated Audit Trail Pursuant to Rule 613 of Regulation NMS under Securities Exchange Act of 1934” available at http://www.catnmsplan.com/web/groups/catnms/@catnms/documents/appsupportdocs/cat_nms_plan_020816.pdf.

The Consolidated Audit Trail system should be a governmental regulatory tool, owned and controlled by the SEC and used to protect investors, make the capital markets fairer, and facilitate investments in companies. The CAT should not be a privately-built system in the hands of a private corporation, used as a self-policing tool. And its technological capabilities should be first rate, not second to private industry standards, and capable of adapting to the ever-evolving markets.

We hope these comments are helpful as you evaluate next steps in the development of the CAT.

Sincerely,



Dennis M. Kelleher
President & CEO

Stephen W. Hall
Legal Director & Securities Specialist

Lev Bagramian
Senior Securities Policy Advisor

Better Markets, Inc.
1825 K Street, NW
Suite 1080
Washington, DC 20006
(202) 618-6464

dkelleher@bettermarkets.com
shall@bettermarkets.com
lbagramian@bettermarkets.com
www.bettermarkets.com