

**MINUTES OF THE  
EIGHTEENTH MEETING OF THE  
U.S. COMMODITY FUTURES TRADING COMMISSION'S  
TECHNOLOGY ADVISORY COMMITTEE MEETING  
APRIL 30, 2013**

The Technology Advisory Committee (“TAC” or “Committee”) convened for a public meeting at 10:00 a.m., on April 30, 2013, at the U.S. Commodity Futures Trading Commission’s (“CFTC” or “Commission”) Headquarters Conference Center, located at Three Lafayette Center, 1155 21<sup>st</sup> Street, NW, Washington, DC. The meeting consisted of six panels. Panel I featured updates by the National Futures Association (“NFA”) and CME Group (“CME”) on the implementation of an industry-led technology to protect customer funds. Panel II featured an update on compliance with Commission rules 1.73 and 1.74, relating to timely acceptance and rejection of clearing. Panel III addressed swap data reporting issues from the perspective of market participants, and Panel IV addressed swap data reporting from the perspective of Swap Data Repositories (“SDRs”). Panel V included a presentation by Tradeworx concerning its MIDAS analytics platform. Panel VI addressed issues related to the April 23, 2013 Twitter attack.

TAC Members in Attendance

John Bates, Progress, Senior Vice President (“SVP”)  
Gary DeWaal, Financial Industry Association (“FIA”), Member  
Bryan Durkin, CME, Managing Director (“MD”) and Chief Operating Officer (“COO”)  
Mike Evans, British Gas Americas (BG Group), Vice President (“VP”)  
Evelyn Fuhrer, Promontory, MD  
Robert Garrison, The Depository Trust & Clearing Corporation (“DTCC”), COO  
Michael Gorham, Illinois Institute of Technology, Professor  
Richard Gorelick, RGM Advisors, Chief Executive Officer (“CEO”)  
David Hartney, Bank of America, Regional Head of Futures and Options for the Americas and Global Head of Futures and Options Execution  
Chris Hehmeyer, NFA, Chairman  
Steven A. Joachim, Financial Industry Regulatory Authority, Executive Vice President (“EVP”)  
Pierre Lamy, Goldman Sachs, VP, Global Derivatives Technology  
Cliff Lewis, Eris Exchange, Member  
John J. Lothian, John J. Lothian Co., Owner  
Ben Macdonald, Bloomberg L.P. (“Bloomberg”), Global Head of Fixed Income  
Lee Olesky, Tradeweb, CEO  
James S. Rowen, Renaissance Technologies LLC, COO  
Marshall Terry, South Ferry, Managing Principal  
Jerry Trahan, Deere & Co., Director, Treasury Operations  
Suprna VedBrat, BlackRock, MD  
Chuck Vice, InterContinental Exchange (“ICE”), Regional Head, the Americas

Data Standards Subcommittee Members in Attendance

Michael Atkin, Enterprise Data Management Council, MD  
Eric Chacon, Citigroup, Chief Data Office, Global Head of Business Data Management

Neil Chinai, Barclays Capital, MD  
RJ Cummings, ICE, VP, Product Development  
Marc Donner, Google, Director, Engineering Research  
Karel Engelen, International Swaps and Derivatives Association (“ISDA”), Senior Director and Head of Data, Reporting & FpML  
Samuel Gaer, Financial Industry Regulatory Authority, Chief Information Officer (“CIO”) and EVP, Business Services  
Bob Green, DTCC, VP, Development  
Walter Hamscher, Securities Exchange Commission (“SEC”), Office of Interactive Disclosure, Manager, Technology and Taxonomies  
Pierre Lamy, Goldman Sachs Group, Inc., MD  
Adam Litke, Bloomberg, Chief Risk Strategist and Head of Enterprise Risk Services  
Peter Marney, Thomson Reuters Corp. (“Reuters”), SVP, Platform Information and Strategy  
Tim McHenry, NFA, Director, Information Systems  
Karla McKenna, International Organization for Standardization, Director, Market Practice and Standards, Global Transaction Services  
Malene McMahon, Society for Worldwide Interbank Financial Telecommunication, Senior Product Manager  
James Moran, CME, Executive Director, Global Market Regulation, Strategic and Technology Initiatives  
William Nichols, Department of Treasury, Office of Financial Research, Senior Advisor, Information Architecture and Innovation  
Brian Okupski, MarkitSERV, MD, Reference Data  
Steven Reich, Federal Energy Regulatory Commission, Chief, Analytics and Surveillance Branch  
Paulo Rodela, BlackRock, MD  
Michael Will, Innodata docGenix, LLC, President  
James Woods, FIA, Chief Technology Officer

Automated and High Frequency Trading Subcommittee (“HFT Subcommittee”) Members in Attendance

Irene Aldridge, ABLE Alpha Trading, Ltd., Managing Partner, Research, Development and Implementation of High-Frequency Trading Algos  
Peter Buckley, Newedge USA, LLC, MD, Prime Clearing Services  
Sean Castette, GETCO, Global Head, Fixed Income, Currencies and Commodities Division  
Colin Clark, NYSE Euronext, SVP, Strategic Analysis & Market Data Group, U.S. Cash Markets  
Christopher Concannon, Virtu Financial, LLC, EVP  
Edward Dasso, NFA, VP, Market Regulation  
Keith Fische, TradeForecaster Global Markets, LLC, Managing Partner  
Joel Hasbrouck, New York University, Stern School of Business, Professor  
Kenneth G. Langone, New York University, Leonard N. Stern School of Business, Professor of Business and Professor of Finance  
Robert Hegarty, Reuters, MD, Global Head of Equities  
Terrence Hendershott, University of California Berkeley, Associate Professor  
Chris Isaacson, BATS Global Markets, Inc., SVP, COO

Paul Kepes, Chicago Trading Company, Co-Founder  
Jordan Lea, The American Cotton Shippers Association, President  
Chris Lorenzen, Eagle Seven Holdings, LP, Founder and CEO  
Michael Mendelson, AQR Capital Management, Portfolio Manager, Risk Parity Strategies  
Jim Northey, FIX Protocol Ltd., Chair, Global Derivatives Committee  
Dean Payton, CME, MD, Market Regulation  
Peter Reiss, DE Shaw & Company, L.P. (“DE Shaw”), CIO  
Joseph Saluzzi, Themis Trading, LLC, Partner, Co-Founder, and Co-Head, Equity Trading  
Tim Sargent, Markit Group Ltd., MD and Global Co-Head of Equities  
Larry Tabb, Tabb Group, Founder and CEO  
Jitesh Thakkar, Edge Financial Technologies, Founder and Trading Software Architect  
Mark Wassersug, ICE, SVP, Operations  
Gregg Wood, Credit Suisse Securities (USA), LLC (“Credit Suisse”), VP, Business Development Manager for AES Futures

CFTC Commissioners and Staff in Attendance

Chairman Gary Gensler  
Commissioner Bartholomew Chilton  
Commissioner Scott D. O’Malia  
Commissioner Jill E. Sommers  
John Lawton, Deputy Director, Division of Clearing and Risk  
John Rogers, Chief Information Officer, Office of Data and Technology

Invited Speakers in Attendance

Chris Childs, DTCC Data Repository (“DDR”), CEO  
Michael Beller, Tradeworx, Chief Technology Officer  
Gregory Dumark, Bloomberg, Chief Compliance Officer, Swap Execution Facility  
Raymond Hanson, Credit Suisse, Global Head of Rates  
Nathan Jenner, Credit Suisse, COO, Fixed Income Electronic Trading  
Aleks Kins, AlphaMetrix Group LLC, President and CEO  
John M. Liftin, DE Shaw & Co. (“D.E. Shaw”), MD and General Counsel  
Walter L. Lukken, FIA, President and CEO  
Ed Prosser, Gavilon Group, LLC, VP Trade  
Dana Smith, NextEra Energy Resources, Project Manager  
Jonathan Thursby, CME, President, Global Repository Services  
Bruce Tupper, ICE Trade Vault & ICE eConfirm Services, President, Market Development

**I. Opening Remarks**

Commissioner O’Malia brought the eighteenth TAC meeting to order at 10:00 a.m. He welcomed Chairman Gensler, Commissioner Sommers, and Commissioner Chilton, as well as the TAC members and members of the HFT and Data Standards Subcommittees. He also thanked the Data Standards Subcommittee for its work and recommendations to the TAC and ultimately the Commission.

Commissioner O'Malia then introduced matters to be addressed by each panel. He noted the importance of thinking about the tools needed to address the challenges of swap data reporting. He commented that he has proposed the creation of a CFTC cross-divisional data unit dedicated to organizing and examining data for completeness and accuracy, and also commented that a guidebook with specific instructions for market participants and SDRs on data reporting would make data reporting more consistent and efficient. Commissioner O'Malia next noted the importance of focusing on solutions and that there needs to be interaction with the market participants.

Chairman Gensler made his opening remarks next. He thanked Commissioner O'Malia for his efforts and noted the timeliness of the meeting for two reasons: 1) the swaps market is moving toward implementation of the Dodd-Frank Wall Street Reform and Consumer Protection Act ("Dodd-Frank"); and 2) there have been advances in technology. He added that the Commission needs to continually adjust its regulations to ensure the market benefits from transparency and that there is some oversight of the swaps markets. Chairman Gensler next stated that the G-20 is fully committed to gathering data into SDRs, and that regulators, finance ministers, and central bankers want accessible, sortable, and searchable data. Chairman Gensler agreed with Commissioner O'Malia about the benefits of guidebooks concerning swap data reporting. Chairman Gensler also discussed among other things the April 23, 2013 Twitter attack and the need to finalize a Concept Release about risk controls and system safeguards for automatic trading environments ("Concept Release") and rules on ownership and control reporting. He closed his remarks by stating that the Commission needs technology resources to keep up with the data and market developments.

Commissioner Sommers made her opening remarks next. She noted the importance of continuing to review the costs and benefits of existing CFTC requirements to ensure they are level with the costs to the industry. She also noted that the Commission needs to ensure that the requirements remain reasonable and make sense. Commissioner Sommers then commented on the importance of the planned discussion topics and also thanked Commissioner O'Malia for holding the meeting.

Commissioner Chilton also offered opening remarks. He thanked Commissioner O'Malia for his work on the Committee and on the Concept Release. He noted the confluence of social networks and the swaps markets, and asked whether something should be done about the interrelationship between social media and trading computer programs. He then thanked everyone for attending the meeting. Chairman Gensler then remarked about the need to consider operational controls.

## **II. Panel I: Status Update on Customer Protection Technology Solution**

Commissioner O'Malia began Panel I by asking Mr.'s Hehmeyer, Durkin, and Kins to address customer protection technology by Self-Regulatory Organizations, NFA, and CME. Mr. Hehmeyer presented first. He described how NFA came to implement AlphaMetrix 360 ("AlphaMetrix"), which is a customer protection technology that checks bank balances online and has been adopted by both NFA and CME. He explained that the system is being implemented in two phases, with Phase 1 covering bank depositories. He also explained that

AlphaMetrix does not analyze or reconcile the data, and its only role is to collect and forward the data to NFA and CME. He also noted that NFA and CME have each developed automated systems to alert staff to any material differences in the data supplied by the banks to AlphaMetrix.

Mr. Hehmeyer then described Phase 2, which covers balances between clearing brokers and clearing houses. He stated that during Phase 2, NFA will handle requirements for the clearing broker balances and CME will handle the clearinghouses. He also noted that NFA is researching the development of technology for confirmation of pool assets, but that this is challenging because there are more pools than Futures Commission Merchants ("FCMs").

Mr. Durkin presented next and stated that CME is receiving bank depository information from 2,082 accounts. He explained that the data covers forty-six FCMs that maintain customer balances. He then noted that CME and NFA have been performing automated comparisons of segregated balances, and also looking for material events. Mr. Durkin also noted that CME hopes to access accounts at clearinghouses and carrying brokers by the end of 2013.

Mr. Kins then made the final presentation in this panel. He first discussed how AlphaMetrix came into being and noted that the technology came out of his desire as a portfolio manager to obtain aggregated trades, and see profits and losses as well as risks. He then reported that in the process of creating the technology, the company had to map out nearly the entire financial system and that it now aggregates data from about 4,000 hedge funds and managed futures funds. In addition, Mr. Kins reported that AlphaMetrix is connected to approximately 300 FCMs, prime brokers, custodians, banks, and other financial institutions.

Mr. Kins next commented that AlphaMetrix has invested approximately \$100 million in developing the technology. He also commented that the development of the technology has been complex as there is no standardization of data across the financial system. However, AlphaMetrix found a way to aggregate financial instruments, including over-the-counter ("OTC") instruments, as the common denominator to all such instruments is cash. He then discussed AlphaMetrix's work with NFA and CME. He noted that Phase 1 of the project is complete and that Phase 2 with CME is nearly complete. In closing, he noted that AlphaMetrix has been able to work quickly with NFA and CME because the core of the project had already been developed and that now AlphaMetrix is taking a deeper look into other potential uses of the technology.

Commissioner O'Malia then asked the presenters some questions. He first commented that the Commission's customer protection rule would require banks to provide login access for each individual account. He then asked whether there would be additional security issues involved with logging in versus collecting data. Mr. Hehmeyer answered that the AlphaMetrix solution is a push technology meaning that banks securely push the data directly to AlphaMetrix, which then securely pushes the data directly to NFA and CME. Mr. Kins added that the process is automated and there is no logging in involved. He then noted that his firm uses the Internet and cloud computing to help aggregate data, but stored data is not connected to the Internet and is encrypted.

Commissioner O'Malia also asked NFA and CME about the completion of Phase 2. Mr. Durkin stated that the goal is to complete Phase 2 by the end of the year, and that CME will report on its progress at the next TAC meeting. Mr. Hehmeyer commented that data transfers involving pools will take longer because they involve many instruments, which makes balancing difficult. Commissioner O'Malia then asked whether the pool data is all account cash data or all securities, and whether it might involve metal. Mr. Hehmeyer responded that the accounts are not all cash or all securities. He further noted that he did not think that the data sets are current assets, and that he is uncertain of their amount.

Ms. VedBrat then asked about the asset manager's or end user's ability to view the data sets since there may be a future requirement to allow this. Mr. Hehmeyer responded that NFA has not considered the issue. Mr. Durkin answered the same and added that CME would consider it.

Mr. Fuhrer then asked about customer privacy as the data is aggregated and disseminated. Mr. Kins answered that when AlphaMetrix pulls data, it neither processes nor discloses it to anyone; the data is pushed directly to NFA and CME. Moreover, AlphaMetrix only runs the system and each entity is in charge of its own data. Commissioner O'Malia queried whether the CFTC is linked with the system and receives reports from the data being delivered from AlphaMetrix to CME and NFA. Mr. Durkin and Mr. Hehmeyer responded that whenever their organizations identify material concerns, they contact their Commission counterparts.

Chairman Gensler then asked what would happen if someone attempted to repeat the Peregrine Financial Group fraud under the AlphaMetrix system. Mr. Hehmeyer responded that someone would have to hack into the computer system and that it would be very difficult to do because the data is pushed from the bank into AlphaMetrix and then into NFA and CME. He added that the \$200 million missing from Peregrine would have been discovered the first day when it amounted to \$7,000. Mr. Durkin concurred.

Commissioner O'Malia next asked about the possibility of another MF Global scenario. Mr. Durkin responded that was unlikely because CEOs or Chief Financial Officers must authorize any disbursements in excess of a specified limit and there are a number of other protocols in place. Chairman Gensler then commented that these protocols should be finalized in regulations and Mr. Hehmeyer agreed.

Mr. Rowen inquired whether AlphaMetrix, CME, and the NFA have separate aggregation units. Mr. Durkin stated that the NFA independently aggregates data across all FCMs as it receives the information and then reconciles the data received from AlphaMetrix against individual FCM data. Mr. Rowen also asked if the data reconciliation is continuous. Mr. Durkin answered that he would need to follow up on that question.

Mr. Lothian next asked whether the AlphaMetrix system verifies improperly named FCM accounts. Mr. Kins replied that the system is a "trust but verify" system that assumes that unrelated entities will not corroborate false information. Chairman Gensler noted that the proposed customer protection rules address acknowledgment letters and direct access to such letters. Mr. Durkin added that this information would be incorporated as part of CME's review

of segregated funds. Mr. Lothian noted that errors could be caught sooner if there was a qualification review of the name to make sure an account is customer-segregated.

### **III. Panel II: Status Update on Compliance with Commission Rules 1.73 and 1.74**

Commissioner O'Malia started Panel II by introducing Mr. Lukken to discuss rules 1.73 and 1.74. Mr. Lukken explained that rule 1.73 requires clearing FCMs of a registered Derivative Clearing Organization to establish risk limits and screen for compliance with those limits. He then explained that the rule was to become effective on October 1, 2012, but FCMs were unable to meet the initial deadline because they found it difficult to comply with the rule. He then noted that FCMs have faced two challenges: 1) "give-ups;" and 2) "bunched orders." Mr. Lukken explained that "give-ups" occur when an executing broker has to give up a trade to a clearing firm because the clearing firm does not have a relationship with the customer. And, as a result, it is then difficult for the clearing firm to screen orders. He then explained that "bunched orders" occur when an asset management firm or an account manager pools customer funds and gives them to an initial clearinghouse, which then allocates the funds to a clearing firm. Mr. Lukken commented that it has been difficult to screen these types of execution matters and also put risk limits on them and therefore, the CFTC provided relief with respect to "give-ups" and "bunched orders" through June 1, 2013.

Mr. Lukken next reported that FIA met with many clearing FCMs to determine if there was an outside technology solution for the problem involving "give-ups" and also met with vendors to come up with a solution, but no vendor was able to resolve the problem. He then reported that FIA, after working with the CFTC, determined that the best way to resolve the challenge was to develop a screening agreement whereby the executing and clearing firms would agree on risk limits. Mr. Lukken explained that the screening agreements could be housed in FIA's EGUS system, which is a "give-up" repository run by FIA. He noted that the industry has been responsive to this solution and that FIA has nearly eight hundred screening agreements in process and nearly fifty executed already. Given these developments, he hoped that the industry could meet the June 1 deadline with respect to "give-ups."

Mr. Lukken then observed that using EGUS for "bunched orders" has been challenging. He explained that "bunched orders" involve those outside the FCM community such as account managers and buy-side firms, and there are also so many of them; therefore, there would be thousands of "bunched orders" screening agreements. To address the problem, Mr. Lukken referenced a potential screening agreement where, unless objected to, account managers would agree to screen for certain limits communicated to them. He stated that the use of such agreements could help meet the June 1 deadline.

Mr. Lukken then discussed rule 1.74, which requires a clearing FCM to accept or reject a trade within sixty seconds after the trade submission. He also noted that a similar sixty-second requirement is in place for Centralized Counterparties ("CCPs") after an FCM submits a trade for clearing. He reported that FCMs individually offered alternative compliance when rule 1.74 was to take effect in October of 2012, and that the CFTC granted relief through the end of last year and then until February 1, 2013. He also reported that FCMs raised concerns that there may be times where they will not be able to meet the sixty-second rule. Mr. Lukken then explained that

FIA offered an alternative compliance regime but the CFTC did not accept it. He also commented that FIA hopes to develop with the CFTC an exceptions process, if appropriate, and work with firms as they transition into mandatory clearing.

Commissioner O'Malia next commented on the effects the rules have had on the industry and asked for clarification about the alternative compliance request. He noted that on January 29, 2013, the industry sent a letter seeking an alternative compliance program, but staff did not respond to the letter. And, under Commission rules, without an answer, a rule is deemed to come into place within thirty days of the request. Commissioner O'Malia then referenced staff's April 2013 letter to FCM clearing brokers, which asked for the number of executed and cancelled trades that exceeded the sixty-second requirement. He also noted that the Commission had been previously offered the same data that was being requested in the April letter. Mr. Lukken responded that the goal of the clearing FCMs is to be in compliance; however, it is difficult to determine when a trade has been rejected or has gone over sixty seconds. He also commented that the industry has tried to develop a process where exceptions would be noted in weekly reports to the Commission. He then noted among other things the industry's willingness to work with the Commission.

Commissioner O'Malia next commented that LCH Clearnet had been provided additional relief and asked Mr. Lawton to generally provide the DCR's perspective on the issue of relief. Mr. Lawton responded that the rule became effective in October of 2012, and there were subsequent extensions of time in October and December. He also noted that there was a third request for an extension, but staff did not grant it deciding that there was not a need for it. Mr. Lawton then stated that, at the time, the CFTC believed there was good compliance, but the agency sought information on the extent of the compliance due to press reports that industry was not in compliance. Mr. Lawton also noted that he expects responses to the inquiry soon and that the CFTC will review them and coordinate with FIA and the industry regarding the results. Mr. Lukken then added that firms can be in compliance if they set their system to auto-reject at sixty seconds, but the issue is what alternatives could have been available if there had been more time to comply.

Commissioner O'Malia then asked Mr. Lawton why staff did not adopt or respond to the January 29 letter that proposed the alternative compliance process. Mr. Lawton responded that the view was that there had been adequate notice, and that it was important to have the straight-through processing rule in place before the effective date of the clearing mandate. The Commissioner responded that the industry was not asking for relief to the rule and that it was going to be in compliance. He then explained that the industry's position was that if thresholds were over ninety percent, the industry would not have to auto reject, and that it would send data exceeding the threshold. Mr. Lawton commented that the firms were essentially stating that they would provide reports and largely be in compliance, but also asking for a later effective date.

Ms. VedBrat next stated that the system has been working from the futures perspective. She offered that, given enough time, the credit limit checking solutions developed for swaps could be extended to futures. She also stated that under the new cleared swaps regime a trade floor will interact with six entities, and the interoperability of those entities is critical to straight-through processing. Ms. VedBrat then commented that the industry infrastructure is not yet

ready to allow for a rejected trade to be resubmitted in a timely manner. However, she added that the providers would soon be able to efficiently resubmit, and clear, if a trade rejected either the buy side, the client leg of the trade, or the executing dealer. Ms. VedBrat offered that another issue with auto-rejection is that liability of a trade break and trade rejection is passed on to the end user, and the end user is not in a position to do anything about this. She also asked the Commission to take into consideration the concerns raised when reviewing extension requests.

Mr. Lawton then asked Ms. VedBrat to elaborate on the identity of the six entities. She explained that they are the executing dealer, client, Swap Execution Facility ("SEF"), CCP, FCM, and SDR. Commissioner O'Malia also asked Ms. VedBrat for her perspective on allocation issues under rule 1.73 and on FIA's ability to organize a repapering to do risk checks. She responded that the risk check will be difficult due to the tri-party nature of the agreements with executing counterparties and FCMs. She added that the process will require almost the same paperwork that is in place today for swaps. Ms. VedBrat also added there would be less repapering if there was a credit hub which received limits from every FCM at the account, subaccount, and allocation levels, and also conducted limit checks when an executing dealer was going to trade, or when a manager was to do a screening on a pre-trade basis.

Mr. Wood then noted that in the vendor showcase previously mentioned by Mr. Lukken, there was a proposal for a central credit check model. He commented that Deutsche Bank was concerned that the solution would change the present futures trading environment and would take years to implement. Ms. VedBrat then briefly commented on the importance of understanding the scope of the staff's April letter, and Mr. Wood asked if Mr. Lukken could speak about that and provide details about screening agreements. Mr. Lukken explained that a screening agreement requires the ultimate clearing firm and the account manager to enter into an agreement on risk limits. The account manager would then be required to screen for those limits with the ultimate customer.

Ms. VedBrat observed that if the asset manager is now responsible for screening the limits, then he or she must know how to accomplish this. She further observed that it will be difficult for asset managers or the buy side to comply with the June 1 deadline. Mr. Lukken agreed with Ms. VedBrat. Mr. Wood added among other things that FCMs have been trying to comply with the rule.

Ms. VedBrat next expressed her concern that FCMs may only be able to execute with the executing dealer that is linked or affiliated with the clearing member of that fund. Mr. Lawton responded that there is no limitation on separating out who ultimately clears from whichever firm the FCM executes through. Mr. Terry then commented that South Ferry has recently been spending much time negotiating agreements, and that many clearing entities do not want to deal with the issue of a trade that has been kicked back. He also commented that as a result his firm bears all the risk. Ms. VedBrat responded that her prior comments were focused on risk from the buy side in general, and that the risk is not evident in the regulation. She then reiterated that many risks are being passed on to the end user.

Commissioner O'Malia next asked Mr. Lawton to address some of the concerns expressed at the meeting. He then asked Mr. Lukken whether there have been any requests for

timing relief. Mr. Lukken answered that his firm is in discussion with staff, and that it will submit more trend data. He offered assistance with developing an exception process to avoid unnecessary rejections.

Ms. VedBrat then expressed her concern about the impact of another market event. She noted that in such case, the clearing members and other entities would tighten the limits submitted to BlackRock. And, as a result, the percentage of rejections would likely increase. She asked whether the Commission had contemplated this type of scenario. Ms. VedBrat also noted her concern that the rule will make the buy side lean more towards a handful of FCMs because market participants will want to limit operational or market losses. She then asked whether it is in the market's interest to have a concentration of clearing members for swap clearing or to allow for a more distributed model.

#### **IV. Panel III: Swap Data Reporting Issues from the Perspective of Market Participants**

Commissioner O'Malia next introduced Panel III. He noted that part of the challenge with data reporting is making sure that all data is submitted in the same manner and harmonized so that when the SDR receives it, the data can be easily matched, compared, analyzed, and provided to the CFTC. He added that there have also been extensive discussions about the reporting the data and that the goal of this third panel is to provide a platform for market participants to speak to the issues and challenges they have dealt with in complying with the rules and timetables. Commissioner O'Malia also inquired about the implementation of the Commission rules on regulatory reporting and historical reporting of swaps, and compliance with those rules.

Ms. Smith commented that one of the issues faced by energy firms is that SDRs may require data that is additional to data that required by the Commission. She also noted that each Energy Trading Risk Management system is unique and highly configured and now with the requirement that everything move together and be standardized, it is a more difficult and longer process than originally anticipated. Commissioner O'Malia then asked among other things if Ms. Smith could provide further detail about the harmonization issue. She responded that the end users, SDRs, and the CFTC interpret the rules differently. The Commissioner then asked if a guidebook would be helpful and Ms. Smith responded in the affirmative.

Mr. Hanson stated that he wished to highlight some of the reporting challenges with the first being extraterritoriality and the need for more clarity regarding the rules. He noted that it would be preferable to have rules that are normalized across global jurisdictions. He then commented among other things that two-sided reporting, compared to single-sided reporting, allows for the parties to see where disagreements lie without worrying about whether the entire industry is in synch. He also commented that it has been challenging for Credit Suisse to address data issues across five major asset classes, including underlying products, and to get single products or single asset classes. In closing, he noted that it would be helpful for the industry to receive guidance on where it can focus its efforts.

Mr. Liftin next commented that DE Shaw has strongly advocated many of the Dodd-Frank reforms and that the firm has already cleared several hundred interest rate and credit

swaps. He then observed that compliance for non-swap dealers and non-major swap participants has been more burdensome than initial Commission estimates. Mr. Liftin also discussed the challenges of implementing the rules. He noted among other things that due to the reporting deadline of April 10, the firm was unable to perform sufficient internal testing of the swap reporting system. He emphasized that trade details consist of sensitive market data and are highly valuable, and then asked the Commission to work closely with the SDRs to strengthen the confidentiality of the reported trade data. He suggested additional efforts, including: 1) ongoing surveillance and monitoring of the SDRs; 2) user access; 3) routine testing; 4) rigorous supervisory procedures and obligations; 5) validation of third-party information; 6) security and privacy controls; and 7) timely self-reporting obligations in the event of security breaches or leaks.

Ms. Kruse next commented that the largest issue concerning further data standardization is the array and number of market participants. She stated that market participants interpret the rules differently, and increasingly global regulation has led to multi-jurisdictional reporting. Ms. Kruse offered that multi-jurisdictional reporting must be considered in connection with standardization, and that global coordination is required for regulations to work. She also noted the importance of ensuring that reasonable time frames are offered for compliance. Commissioner O'Malia asked what ISDA has done to help with organizing the standardization and whether a guidebook would be helpful. Ms. Kruse noted that ISDA and other trade associations have been bringing together the different market participants to discuss and solve issues; she also noted that a guidebook would be helpful and suggested that there be a phased-in approach that would work for all market participants.

Mr. Prosser next commented that the reporting structure is complicated and confusing and that the CFTC does not appreciate the diversity of swaps terms. He questioned the value of the Commission collecting vast amounts of data and expressed concern that conclusions may be made about the data that is not accurate. Mr. Prosser then briefly discussed the former position limits rule, and asked that the CFTC retain the historical requirement of monthly reporting. He also discussed the new requirement to report oral conversations and commented among other things that the rules are vague as to what communications must be retained, and that market participants are now retaining everything. In closing, Mr. Prosser asked that the CFTC consider the regulatory benefits versus market costs, and that the Commission does not overburden end users.

Mr. Wood commented that there are many significant requirements affecting many market participants, and asked the CFTC to continue its efforts in a holistic manner. He noted many information overlaps, and that there is room to reduce compliance costs. He also noted that if there is guidance, the participants could work together to meet the reporting requirements.

Commissioner O'Malia concluded Panel III by summarizing the challenges as: 1) harmonization; 2) operational challenges; 3) privacy; 4) multi-jurisdictions; 5) standardization; 6) complexity; 7) size; and 8) cost. Ms. VedBrat added data accessibility. Mr. Hanson and Ms. Kruse encouraged collaboration among market participants. Commissioner O'Malia next informed the meeting participants that the TAC would be breaking for lunch and that the meeting would resume at 1:30 p.m.

## V. Panel IV: Swap Data Reporting Issues from the Perspective of SDRs

Commissioner O'Malia began Panel IV by asking Mr. Rogers to present. Mr. Rogers first thanked those SDRs that had provisionally registered for their work and collaboration with the Commission. He then commented that his presentation would be divided into four data quality areas: 1) validation and normalization; 2) harmonization; 3) accessibility; and 4) analytics. He also asked that when the SDRs are invited to provide their perspectives about swap data reporting that they discuss what they are each doing in these areas, including future plans.

On the topic of validation, Mr. Rogers emphasized the importance of obtaining good standardized data from the source. He noted that the CFTC has already sent the SDRs an initial set of twenty-two fields that it will be focusing on to ensure it is obtaining good data. He also noted that the process of obtaining good data begins with the SDR reaching out to the submitters and ensuring that the quality of the submitted data is increasing. Mr. Rogers then commented that one of the challenges with obtaining data has been different requirements for accepting and rejecting records. He also commented on among other things the categories of data that the CFTC has obtained (messages, events, open swaps, and exposure) and some of the things that the agency is looking at during validation. For example, he stated that the agency is looking at the rate of Legal Entity Identifier validations, whether Unique Swap Identifiers are properly constructed and that dates and times are appropriately represented, and whether there are duplicate records.

Mr. Rogers next discussed harmonization and noted the need to assess the overall size of the market by party, counterparty, and product. He noted that there are challenges related to types of content flowing into the different SDRs. Specifically, there are different messages, and sizes and shapes of fields. He also noted that from a data management perspective, fields should never be used for more than one purpose. Mr. Rogers then commented that the Commission's first step toward harmonization has been to focus on harmonizing data across and within asset classes.

Regarding accessibility, Mr. Rogers explained that data must be directly available at the SDR and that the Commission must be able to access the data on a real-time basis. He also stated that the Commission must be able to search each portal by a variety of fields. Mr. Rogers then commented that each portal must have an ad hoc query capability to bring data back to the Commission, and must also have operational status reports and documentation. He also commented among other things that the ultimate goal is for the SDRs to provide a regular feed of information to the CFTC.

Regarding analytics, Mr. Rogers discussed the importance of keeping track of other metrics, including top notional amounts outstanding by categories, currency and customer type, types in asset class, trade volumes, and similar factors, and also noted that the Commission would continue asking for these analytics. He then concluded his presentation by stating that the process going forward would be similar to what exists now, also emphasizing the importance of the Commission and SDRs working together to harmonize data, reports, and portal capabilities.

Commissioner O'Malia asked Mr. Rogers whether all market participants have been informed of the data quality standards and what the Commission wants from them. Mr. Rogers responded that the Commission had just started this process with the issuance of the twenty-two fields, and that the next step is for the SDRs to inform the Commission how long it will take to implement the validation rules. He also offered that this should not take long, but added that it would be at least a year before harmonization would occur on a global basis. Commissioner O'Malia then asked whether staff has issued further guidance on the twenty-two fields. Mr. Rogers answered in the negative, adding that staff expects SDRs to initially reach out to the submitters on their compliance with the fields.

Commissioner O'Malia next asked the SDR representatives to comment on Mr. Rogers's presentation. He noted that the goal is for the SDRs to agree on the path forward, and that any SDR in disagreement should let the Commissioner know. Mr. Dumark and Mr. Jenner from Bloomberg commented first. Mr. Dunmark noted that the regulatory reporting of swap transactions is critical to mitigating systemic risk, promoting standardization, and increasing market transparency. He also noted that many of the requested items are doable and that Bloomberg will work with other SDRs to standardize the fields. He then commented that it is important for Bloomberg to know the Commission's surveillance objectives.

Mr. Jenner noted that Bloomberg already takes in data from different market sources. He also noted that Bloomberg maintains a terminal named SDR Go, which accepts data from other SDRs and has the ability to search and sort data, as well as create risk reports. Mr. Jenner then asked whether the CFTC intends to focus on specific questions that it wants answered or whether it prefers to proscribe the requirements for the way data is presented. Commissioner O'Malia responded that the CFTC wants data reports now, but it also wants to analyze data on its own in the future. He also noted that the CFTC wants to be able to conduct surveillance on any entity and on any asset, and that the agency needs to be more prescriptive about the types of information provided by the SDRs. Mr. Rogers agreed and added that the ultimate goal is to allow the CFTC to conduct its own searches.

Mr. Childs next commented that today's reporting is global and it is important that standards are evaluated in the global context. He also commented that DDR has received a large amount of data from Swap Dealers, and that the next step is to ensure that data is of sufficient quality to aggregate it. He further noted that although more data is being standardized, the compliant data is being muddied by the non-compliant data, and that it is important for the standards to be embraced by all the SDRs. Mr. Childs then provided comments on accessibility and analytics. He noted that DDR is in its initial stages regarding these areas. He also noted that after there has been time to look at the market and capture the data, questions about exposure and whether the data can be put through the stress tests, and other factors will need to be addressed. In closing, Mr. Childs reiterated that prioritization is most important and it is best to start where the industry can make the biggest headway first.

Mr. Tupper next discussed commodities and end users. He noted that while ICE is committed to supporting all of its participants, the end-user group makes up the greatest percentage of the market. He also noted that ICE has taken on a consultant type role for this group and has also developed guides to assist end users. Mr. Tupper then commented that one of

the biggest challenges for ICE has been working with older systems that were never meant to connect to an SDR. He also described in detail ICE's system for accepting and then reporting data to the Commission. As a final comment, Mr. Tupper noted his hopes that final requirements will be published regarding full registration.

The next speaker was Mr. Thursby who commented that the reporting ecosystem should develop into a collection of useful regulatory data that provides access to swap positions for the purpose of assessing systemic risk. He stated that the reporting ecosystem is complex and that market participants need to have clarity on the requirements and sufficient lead times. He also stated that before regulatory scrutiny, it is important that foundational reporting mechanisms are in place. He also noted that it is challenging to aggregate product where product descriptions can vary greatly for the same instrument.

Mr. Thursby continued that he was pleased to see the draft of the key reporting fields and that CME is looking to see where it can accommodate those fields. He also noted that CME is fully committed to doing everything possible to assist in all aspects of reporting and delivering good monitoring. Mr. Thursby then commented on the importance of prioritization along with identifying more controlled aspects as being critical to successful data reporting. He noted that one area that has more control is the interface between the CFTC and the SDRs and that it is a far easier effort to solve how data is exchanged on a few entities. He predicted that with the onset of SEFs there will be consolidation of reporting entities, and that SDRs would be able to work with the smaller audience to more accurately represent the data. He also urged that outstanding end-user reporting obligations be correlated with the timing of SEF rules.

Mr. Thursby also commented on the importance of harmonizing data across jurisdictions and the burdens of reporting to both U.S. SDRs and European Trade Repositories. He recommended waiving the reporting requirements in cases of substantially similar regulatory regimes. He also stated that regional repositories could serve as intermediate aggregation points to the local regulator, which could then coordinate with global regulators.

Commissioner O'Malia then asked for clarification about the process for achieving data quality and harmonization. Mr. Rogers responded that CFTC will dictate the process. He noted nonetheless that staff will work with individual SDRs as well as collectively, to improve data quality, and continue to use portals. On harmonization, he noted that staff has been in bilateral dialogue with the SDRs for the last month or two.

Mr. Childs then observed that there are many standards already in place, but also noted he would like more clarity on whether other SDRs in the same space are collecting data using the same standards. He also commented among other things that the starting point for certain asset classes is a quick gap analysis.

Mr. Joachim stated next that the OTC market is much more complex than exchanges because every party becomes a decision point when reporting to an intermediary and emphasized the importance of the CFTC knowing what it plans to do with the data. He then commented that data defined a certain way might suffice for clearing purposes, but not for the regulatory ones. He also commented on the importance of regulators working closely with counterparties. Mr.

Joachim then noted that more clarity is needed regarding the definition of an accountable party and that Financial Industry Regulatory Authority holds the counterparties accountable for data integrity. He also noted that to ensure data integrity, there needs to be an audit trail of every party involved in a transaction.

Mr. Lamy agreed with Mr. Joachim's comments and also noted that counterparties have been reporting data without a good understanding of how to do it. He then stated that SDRs should let the counterparties know when they do not abide by SDR-specific standards or protocols. Mr. Lamy also commented among other things that the CFTC should not create a specific way to express data, but instead think about a future global correction.

Mr. Jenner added that with multiple SDRs there is a likelihood of both product and data fragmentation, which will make it difficult for the Commission to track data. For example, a quarter of the rate market could be in one SDR, and another half in a different SDR. There could also be data fragmentation where, for example, the Primary Economic Terms data and real-time data would go to one SDR, and the continuation data would go to another one. He also noted that when the data framework is undefined, it will be difficult to trace one trade through a life cycle.

Chairman Gensler commented that the CFTC is typically told that it would be better if its rules were less detailed and less prescriptive, but that some of the comments being made at the meeting are the reverse. He then noted that the data reporting rules are fairly detailed, but that some flexibility was left to the markets. Mr. Joachim responded that it is necessary for data rules to be prescriptive to ensure data accuracy and consistency. Mr. Childs then emphasized the importance of standards and asked whether the Commission will define the specific standards for SDRs or whether it will leave it to the industry to determine standards.

Chairman Gensler also noted that SDRs must clean up their data so that it can be reconciled and usable. He then noted the importance of regulators being able to access the data and perform functions such as aggregation, sorting, and filtering, and that international regulators desire to aggregate data both within and across jurisdictions.

Ms. VedBrat then commented on data flow fragmentation and data cleansing. She suggested that if market participants can direct the SDR where to report data, some of the data from the same trade may remain intact. Ms. VedBrat also asked the Commission to allow the market to perform some of the data cleansing. She explained that if the data is accessible to end users, the SDRs will need to do their own reconciliation. She also explained that making data visible to the market may facilitate a consistent interpretation of the twenty-two fields among the SDR.

Commissioner O'Malia next asked about the role of the industry in the data reporting relationship between the Commission and the SDRs. He also commented that end users are often unclear about applicable rules. Mr. Lewis responded that the Commission should think more broadly than what is good for the Commission's purposes, and that the emphasis should be on transparency. He added that analytics companies will treat the data mining as a commercial opportunity, and the Commission should enlist help of market participants. He also suggested

that the Commission look to TRACE (Trade Reporting and Compliance Engine) experience to improve market transparency.

Chairman Gensler commented that the intent of Dodd-Frank is to bring transparency to the markets and the real-time reporting was similar to TRACE. He also stated that benchmarks like LIBOR (London Interbank Offered Rate) and EURIBOR (Euro Interbank Offered Rate) are susceptible to misconduct because they are not tied to real transactions. He then noted that real-time information on interest rates, credit swaps, and energy swaps will help end users and also anchor the data in reality.

Mr. Terry commented that the issue being discussed had been solved in large part two or three years ago when the New York Federal Reserve ("New York Fed") stepped in to reconcile data standards. He also stated that the Commission could rely on some of those existing measures and that some companies have already benchmarked ten to fifteen trade attributes.

Mr. Rogers agreed that the Commission could base its requirements on existing solutions but has to adjust them to its own requirements. He stated that standards will continue to evolve and become more specific. He also added that the implementation of the standards will introduce additional complexity. Mr. Terry queried whether the issue is that market participants are not receiving sufficient directive on how to implement a standard.

Chairman Gensler next commented that the CFTC's requirements are more prescriptive than those by the New York Fed. He also commented on the need for the CFTC to see where it can assist with standardization and asked whether Mr. Rogers could share the twenty-two fields with the SDRs. Ms. VedBrat added that SDRs should have the optionality to choose where the data will be reported. She said that this will facilitate standardization by enabling an SDR to validate the entire trade flow.

Mr. Thursby commented that one of the features of CME's portal is that the full audit history and linkage of a transaction is readily available. He also noted that it would be helpful if the Commission could inform SDRs where it is observing differences in reporting so as to facilitate harmonization. Mr. Tupper then commented that ICE had met with CFTC staff who reviewed ICE's portals and its standards. He noted that data is collected differently by the SDRs and that he was concerned about the quality of trade data validation. Mr. Tupper also stated that the reporting hierarchy works well in fixed markets but not in commodities.

Mr. Dumark commented on the consolidation of data post-novation, which involves the customer's choice to send a trade to the clearing house that is also operating an SDR. He noted that a concern with SEFs having the discretion to report to an SDR of choice is that there will be multiple competing SDRs offering premium services. Mr. Dumark also asked the Commission for feedback on the reporting of certain fields.

Commissioner O'Malia next asked whether the SDRs have a uniform reporting framework to ensure the quality of data flows by the submitters. He also asked whether the SDRs need more direction from the Commission. Mr. Childs responded that the twenty-two reporting fields will help focus and prioritize the reporting process. He also stated that SDRs

also need to do a gap analysis. He then added that there needs to be more cooperation among the SDRs on mapping their different standards. Mr. Jenner commented that SDRs need guidance on how to present data to the Commission, and Mr. Thursby commented that there needs to be a formalized dialogue among the SDRs under the Commission guidance, identifying key areas to focus on.

Commissioner O'Malia then asked whether the CFTC has been clear about its expectations for tracking data issues and validation with the SDRs. Mr. Tupper commented that meetings with the Commission staff have been helpful. He also commented that an SDR has the obligation to accept data that will enable the Commission to track the aggregate transaction level data and to generate positions. Mr. Tupper then stated that regulatory reports will help reveal the level of data quality and validation for the reporting entities. As a follow-up, Commissioner O'Malia asked whether each SDR has a screening process to reject bad data. Mr.'s Lamy, Thursby, and Childs responded in the affirmative. Mr. Rogers added that SDRs do not have uniform screening processes.

As a follow-up, Commissioner O'Malia asked Mr. Rogers about the agency's time frame with regard to obtaining data quality trends by the submitter. Mr. Rogers responded that it is a continual process and that the objective is to establish compliant and noncompliant data, without deciding which reporting regime is better. He then commented that his staff has spoken with the SDRs to contact submitters on data quality issues. He also noted that there is still work to be done regarding submitter reporting and also emphasized the importance of completing a trend analysis on the data to determine whether progress is being made.

Commissioner O'Malia then asked Mr. Rogers what the process is for obtaining good data. Mr. Rogers responded that it involves working with the twenty-two fields, and the SDRs going back to the submitters to obtain quality data among other things. Mr. Dumark commented that his firm, as both an SDR and an analytics company, needs quality data. Mr. Atkin added that the various existing standards are causing confusion.

Mr. Tabb emphasized the importance of defining the process so that circumstances like double reporting do not occur. Mr. Wood commented that there are multiple reporting approaches and not enough time for the kinks in these approaches to work themselves out. He then commented that the multiple standards need to be brought together with guidance from the Commission and other regulators. He also noted the importance of working closely together to find the best approach. Mr. Thursby added among other things that the Commission should focus on end customers and SDRs in standardizing the reporting. Ms. VedBrat concurred about the need to aggregate the various types of information and noted that a cost-benefit analysis would be helpful. Mr. Durkin commented that it might be helpful to utilize a working group to discuss reporting standards and also noted that SDRs can best determine how to make the data consumable by the Commission.

Commissioner Chilton asked how the SDRs expected to come into compliance with the reporting rules. Mr. Childs responded that his firm is compliant with its reporting obligations, but noted that the remaining question is whether the data the Commission is receiving is the data

that it seeks. Chairman Gensler remarked that data reporting is a work in progress, and that it has not been easy to transform a previously opaque industry into a transparent one.

In closing this panel, Commissioner O'Malia noted among other things the importance of a dialogue between the Commission and the SDRs, as well as conducting an analysis on obtaining data in the most efficient and cost-effective way. He also commented that Commission staff will work with the SDRs and market participants to address the reporting concerns.

#### **VI. Panel V: Presentation by Tradeworx: Big Data--Looking Ahead**

Commissioner O'Malia began Panel V by introducing Mr. Beller of Tradeworx, which provides the SEC with equity and equity option market data collection and an analysis system that combines data services, applications, and related databases. Commissioner O'Malia also commented that once the Commission is able to sort out the data and use it, the potential benefits for the data is evident in a system like Tradeworx.

Mr. Beller first provided background on Tradeworx and then discussed the May 6, 2010 flash crash. He noted that during that day three billion equities messages were transmitted to the markets along with the creation of three hundred gigabytes of equities markets data. He then stated that in such a scenario a regulator would likely want to know how the liquidity evolved during that event, and that such evaluation would require analysis of billions of data points.

Mr. Beller next reported that the MIDAS system can evaluate an event in a couple of seconds. He then explained that the system first collects data from a network consisting of six data market centers and matches all the trades, generates feeds, and normalizes data. He next reported how the collected data is stored in a cloud and discussed the advantages of cloud computing, including low cost and easy collaboration. Finally, he explained how the data can be viewed at multiple levels. For example, at the highest level, he reported that an analyst can view the depth of a book to any level of detail, including single or multiple exchanges or time stamped to the microsecond. The data can also be viewed forward or backward in time to see how the market evolved, or to visualize the order book dynamics surrounding a flash crash.

Mr. Beller next explained that Tradeworx created a separate cloud for the SEC and transferred data from Tradeworx into that cloud, which was specific to the SEC's security standards. He also reported that SEC users can log into analysis servers, make requests from the data, and obtain fast results, as well as add their own data sets. Mr. Beller stated that the deployment of the system took approximately four months, and the SEC's annual cost to access the system is two million dollars. Mr. Beller concluded that the MIDAS system has been successful and could satisfy the needs of the Commission.

#### **VII. Panel VI: Open Discussion on Market Issues Related to April 23, 2013 Twitter Attack**

Commissioner O'Malia next turned to the final panel, a discussion by the TAC on the April 23, 2013 hacking of the Associated Press's ("AP") Twitter account. He noted that the attack caused the Standard & Poor's 500 Index to drop 11 points, the Dow Jones Industrial

Average to drop 144 points, and the CME to drop one percent. Commissioner O'Malia asked the TAC how to deal with the scrape and trade algorithms that automatically read electronic messages and trade and the appropriate regulatory response among other questions.

Commissioner Chilton asked the TAC if the Commission should implement additional rules, such as those addressing recklessly providing information. Chairman Gensler commented that the operational risks of Twitter-type attacks have been identified by the Financial Stability Oversight Council. He asked about measures the Commission could undertake to assure the public that registrants' systems are robust and resilient against cyber-attacks.

Mr. Durkin stated that CME has market controls to deal with aberrant market movements and the controls are geared towards a big gap or drop in market performance. He then stated that during the Twitter attack there was a great deal of liquidity, with no big aberration because the market went down orderly tick for tick, then up, and back down and up again. Mr. Vice commented that ICE had a similar experience and explained that ICE's system is geared towards short-term spikes. He then commented that the industry should focus on insulating itself regardless of the cause of a change in the market rather than trying to work with the Commission to root out various bad practices.

As a follow-up, Commissioner Chilton asked whether the Commission should include social networks under false reporting rules. Ms. Fuhrer commented that there is a difference between pure hacks and those who are actually trying to manipulate the market. She also noted that the marketplace should recognize that certain things are going to happen, like terrorist threats and natural disasters, and that there need to be alternatives to deal with these situations. She also suggested that those who profited from the Twitter attack are likely different from those who hacked into the AP's Twitter account.

Ms. VedBrat next emphasized the importance of keeping and considering the source of information, in this case Twitter, separate from the effects of the information. Mr. Gorham added that rumors will exist because certain people will want to profit from them. He then asked whether the Commission wants the ability to go after the AP or Twitter. Commissioner O'Malia answered in the negative and commented that the Commission cannot control Twitter as a corporation, but may be able to deal with a market registrant. Chairman Gensler stated that there is race for the large financial institutions, exchanges, and similar institutions to build appropriate protections.

Ms. Aldridge commented that tracking the persistence of entities that trade on Twitter-like events may help demonstrate improper intent. Mr. Tabb stated that individuals will always be trying to mine information, whether it is Twitter or another platform. He also concurred with Ms. Aldridge's comment that it is important to figure out who is profiting from Twitter-like events and commented that industry has been doing a pretty good job of keeping data secure. Mr. Tabb then noted that there is much more that should be done and emphasized the importance of ensuring the integrity of the infrastructure.

Mr. Lewis commented that attacks by other governments are a great concern and encouraged the Commission to consider this issue. He also noted among other things that

systems put in place by commercial enterprises may not be sufficient to withstand a concerted attack by another government. Mr. Joachim stated that account intrusion is more important than information flow, and that a regulator needs to look for the weakest links in the system. He also expressed his concern that a rogue trader or a rogue individual executing a large amount of transactions in a short period of time could have a deleterious effect on a broad-scale in the marketplace.

Mr. Hehmeyer noted that while rumors are illegal, because machines are very quick to react now, speed does not necessarily mean something illegal has occurred. Mr. Durkin added that industry has had controls in the last two years to prevent certain kinds of movements and that the markets would automatically stop, but that was not the case in the Twitter attack.

Commissioner O'Malia then commented that the market reacted relatively slowly to the Twitter attack. Mr. Tabb responded that Twitter feeds are not registered like AP, Reuters, or Bloomberg, and that trading off Twitter is uncommon. He also noted that if the news had come through a secure news feed like Dow Jones, it would have been followed by a more severe market reaction. Chairman Gensler then asked Mr. Tabb if individuals are looking for specific words and having algorithms that trade off of the key words. Mr. Tabb responded in the affirmative, but noted that it is difficult to do this with Twitter.

Ms. Fuhrer noted that the hack only affected one Twitter AP feed, and the effect of the hack would have been more serious if it had involved multiple Twitter feeds. Mr. Fische added that the Dow Jones feed can go directly into an automated trading system and he did not think someone could have scraped and traded off Twitter. Mr. Lothian commented that there is a company called Social Media Analytics that analyzes and quantifies the Twitter feeds. He added that individuals who traded on the false AP tweet learned a valuable lesson and will likely be more cautious about unverified, single source data.

Following these comments, Chairman O'Malia thanked the TAC members for attending and staff for assisting with preparations for the meeting. He noted that staff has much work to do on data and that a team will be pulled together on a regular basis to discuss all the issues raised at the meeting. He then adjourned the meeting at 4:55 p.m.

I hereby certify that the foregoing minutes are accurate:

  
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Amir Zaidi  
TAC Designated Federal Officer and Acting Chair

9/22/2014  
Date