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COMMODITY FUTURES TRADING COMMISSION

TECHNOLOGY ADVISORY COMMITTEE MEETING

Washington, D.C.

Tuesday, October 12, 2010

PARTICIPANTS:

Commission Members:

SCOTT O'MALIA, Commissioner

GARY GENSLER, Chairman

MICHAEL V. DUNN, Commissioner

JILL SOMMERS, Commissioner

BART CHILTON, Commissioner

Presenters:

ANDREI KIRILENKO
Senior Financial Economist,
Office of Chief Economist, CFTC

BOB PEASE
Trial Attorney, Division of Enforcement, CFTC

MAURICIO MELARA
SEF Rule-Making Team

JOHN ROGERS
Chief Information Officer, CFTC

THOMAS SECUNDA
Chief Technology Officer, Bloomberg LP

MICHAEL COSGROVE
Managing Director-Head of Commodities &
Energy Brokerage, North America, GFI Group

TOM LEAHY
Chief, Product Review Branch,
Division of Market Oversight, CFTC

DAVID TAYLOR
Special Counsel, Division of
Market Oversight, CFTC

PARTICIPANTS (CONT'D):

STEVEN A. JOACHIM
Executive Vice President of
Transparency Services, FINRA

JIRO OKOCHI
CEO and Co-Founder, Reval

PETER AXILROD
Managing Director for New Business
Development, The Depository Trust &
Clearing Corporation

Technology Advisory Committee Members:

DR. JOHN BATES
Senior Vice President, Chief Technology Officer
and Head of Corporate Development
Progress Software

BRENDA BOULTWOOD
Chief Risk Officer
Constellation Energy

JOHN BREYAULT
Vice President, Telecommunications and
Fraud Public Policy
National Consumers League

DR. PETER CARR
Global Head of Market Modeling
Morgan Stanley

MICHAEL COSGROVE
Managing Director-Head of Commodities &
Energy Brokerage, North America
GFI Group

GARY A. DeWALL
Senior Managing Director and General Counsel
Newedge USA, LLC

PARTICIPANTS (CONT'D):

DONALD F. DONAHUE
President and Chief Executive Officer
The Depository Trust & Clearing Corporation

BRYAN T. DURKIN
Chief Operating Officer and Managing Director,
Products and Services
CME Group, Inc.

RICHARD B. GORELICK
Chief Executive Officer
RGM Advisors, LLC

DR. MICHAEL GORHAM
Industry Professor of Finance and Director
IIT Center for Financial Markets
Illinois Institute of Technology

SIMON GRENSTED
Managing Director, Business Development
LCH.Clearnet

JILL L. HARLAN
Corporate Risk Manager
Caterpillar, Inc.

DOUGLAS E. HARRIS
Managing Director
Promontory Financial Group, LLC

CHRISTOPHER K. HEHMEYER
Vice-Chairman of the Board
National Futures Association

STEVEN A. JOACHIM
Executive Vice President of Transparency Services
Financial Industry Regulatory Authority (FINRA)

PETER G. JOHNSON
Managing Director of Futures & Options
J.P. Morgan

PARTICIPANTS (CONT'D):

DR. ALBERT S. KYLE
Charles E. Smith Chair Professor of Finance
University of Maryland

GARRY N. O'CONNOR
Chief Executive Officer
International Derivatives Clearing Group, LLC

MICHAEL RICKS
Merchandising Manager, North America
Cargill Inc.

MATT SCHATZMAN
Senior Vice President, Energy Marketing
BG Americas & Global LNG

THOMAS SECUNDA
Chief Technology Officer
Bloomberg LP

CHARLES A. VICE
President and Chief Operating Officer
IntercontinentalExchange

DR. MATTHEW WHITE
Senior Economist
ISO New England, Inc.

CHARLES F. WHITMAN
Chief Executive Officer
Infinium Capital Management

P R O C E E D I N G S

COMMISSIONER O'MALIA: Good Afternoon. I would like to welcome everyone to the second meeting of the CFTC Technology Advisory Committee. During this meeting, we will continue our debate regarding high frequency and algorithmic trading, and focus on improving market transparency through the deployment of swap execution facilities and swap data repositories.

I would like to thank my fellow Commissioners for their participation, and I would like to welcome our Committee members. All of you have taken time out of your busy schedule, and I appreciate your participation to contribute to this technology discussion.

I would also like to thank our presenters, many of whom are Commission staff and who have worked very long hours in their respective rulemaking teams. I greatly appreciate your participation and presentations, which I know will contribute to today's debate.

Since our last meeting in July, Congress passed and the President has signed the Dodd-Frank Wall Street Reform and Consumer Protection Act. This statute provides vast new authorities to this Commission, most notably the comprehensive regulation of the over-the-counter swaps markets calling for mandatory exchange trading and clearing of standardized swaps.

In addition, we will have the benefit of a presentation by Dr. Kirilenko, an economist, regarding the events of May 6. Dr. Kirilenko will also present his academic paper that he has co-written with several other authors, including Dr. Kyle, a Committee member.

In developing the agenda for this meeting, I focused on some of the most challenging and technology-related questions facing this Commission in light of the recent events and our new jurisdiction. The first topic on high frequency trading is not only obvious, but also a continuation of our first meeting where we sought to identify and establish appropriate controls on high frequency trading.

The May 6 staff report identifies the various roles computer trading strategies played in the massive sell-off, and highlights the interconnectedness of the futures and equity markets. The staff report essentially concluded that a large sell order in a very turbulent market set off a chain reaction in the markets. In doing so, it exposed significant and systemic flaws in: (1) our market structures; (2) the stub quote system; and (3) the resultant breaking of trades. When a regulator steps in and breaks trades, we have no choice but to question whether we have failed in some manner. I also believe the payment for order flow practice warrants further investigation.

Another element of our first panel will focus on the new statutory authority intended to reign in manipulative and disruptive trading strategies. Bob Pease, who is the CFTC lead on the rule-making teams, will educate the Committee on the new authorities. Although the inclusion of these topics in one panel should not be read to mean that there was any nefarious intentions at play on May 6, it is appropriate to use this forum to discuss the options available to the Commission in dealing with computer aided trading strategies that are disruptive to these markets.

Our third panel will focus on how swap execution facilities can improve pre-trade transparency in the marketplace. Understanding our options and constraints with regard to technology in these new trading venues is essential to developing a flexible and lasting market design that is responsive to innovation and product evolution.

Finally, our fourth panel will address the technological challenges relating to post-trade transparency and the Commission’s ability to meet these challenges by deploying an effective surveillance system to see across all markets, trading platforms and clearing entities to ensure risk is well managed.

On Sunday, 60 Minutes fortuitously ran a story on high frequency trading that referenced the May 6 staff report and its relationship to computer based trading systems. I would like to quote Larry Leibowitz, the COO of the New York Stock Exchange, who appeared in the 60 Minutes story. I believe Mr. Leibowitz accurately captured our mission here today when he said, in reference to high frequency trading, "We have to do a better job. We have to make changes that make sense that give people more confidence in this market. Add more transparency. And make people feel like this is a place I can trust my retirement savings to."

I hope today’s discussion will provide specific recommendations as to how we can do a better job and make appropriate changes that instill confidence in these markets. The CFTC’s 30 rule-making teams are working towards recommending rules and creating standards for the swaps markets, and today’s hearing can help guide the Commission and teams going forward.

I appreciate everyone's participation

here, and before we begin, I'd like to recognize my other commissioners for their opening remarks. Mr. Chairman.

CHAIRMAN GENSLER: Thank you, Commissioner O'Malia, for chairing today’s Technology Advisory Committee. I also want to thank my fellow commissioners for all their hard, particularly as we move forward in the Dodd-Frank Act.

As the CFTC works to implement Dodd-Frank, it is essential that our rulemakings take into consideration the rapidly evolving technology in the marketplace. Rapidly changing technology has been a feature of our markets for a long time, of course. I mean, from the first telegraph facilitating greater transparency in the mid 19th century, and that really lead to the ticker tape, as many of you know. Since even when the Securities and Exchange Commission and our predecessor were set up in the 1930s, we as regulators have constantly had to remake our regulations so that technology can be used to the benefit of investors and end-users and help best promote transparency and efficiency in markets.

While new uses of technology such as algorithmic and high-frequency trading, co-location and electronic trading facilities pose additional challenges, they are not so different from when the first telephone was brought onto the floor of the Exchange, and I don't think anyone here is old enough -- I am not -- but there was an actual debate whether telephones would be allowed on the floor of the New York Stock Exchange, and for years they were banned. They were not allowed.

In the 1990s, we had the internet. And when the internet came around, we first had to say how is this going to be used in the trading of futures and securities. So As regulators, we need to ensure that these advances in technology, just like advances in past decades, help to lower risk and promote transparency in markets rather than going in the reverse direction.

That's why I'm so thankful that

Commissioner O'Malia reconvened this Advisory Committee a number of months ago. In particular, we get the benefit from all of our panelists here and the advice that you have as we write rules with regard to Dodd-Frank and as we consider responses to the events of May 6.

I'm going to give a couple of for examples, but what's the role that technology should play in both pre-trade and post-trade transparency? What is the appropriate balance between electronic and voice trading for swaps as we promote this pre-trade transparency? How should we interpret the statute’s requirement that says real-time reporting should be "as soon as technologically practicable." So it's a technology committee and the word technological is right in the statute. How should the CFTC use technology to link directly to swap data repositories? The statute says we get a direct link, but also maybe to clearinghouses. How should this evolving world of high-frequency and algorithmic trading influence our new authorities regarding disruptive trading practices? We'll hear from the staff a little bit, but it would be great to hear from you all.

In addition to what we're doing on Dodd-Frank, I look forward, of course, to your views about the unusual events on May 6. What responses are appropriate to prevent such events in the future? We're fortunate to have, and look forward to have advice from a Joint Advisory Committee that advises the SEC and CFTC with the advice of this panel is certainly warranted and looked forward to as well.

Specifically, should executing brokers have an obligation to enter and exit the markets in an orderly manner? Or if they do, at least on the largest of orders, should they have some obligation? Should they adopt certain trading practices when executing such algorithms?

Would it be beneficial to increase visibility into the order book in these markets? And if so, how is the best technological way to do it?

And then lastly, as we know from May 6, there was a five-second pause at a critical moment, but that algorithm itself, that, too, is an algorithm, the five-second pause called stop loss. I'm trying to remember exactly how we called this thing. Stop-loss logic. But that, too, is an algorithm. Might it have been better if it was earlier or was triggered by different events? And if so, what would be good?

So again, I want to thank the whole committee and I look forward to your advice, and thank you, Commissioner O'Malia.

COMMISSIONER O'MALIA: Commissioner Dunn.

COMMISSIONER DUNN: Well, I too would like to thank Chairman O'Malia for holding this very timely Technology Advisory Committee meeting today, and orchestrating 60 Minutes and a good half-dozen clips this morning was just a stroke of genius, Scott. My hat is off to you.

I would further like to thank those that are on the panel today making presentations, and a special thanks to the members of the Technology Advisory Committee who will help the Commission as we try to understand the impact technology is having on all types of derivatives trading.

Dodd-Frank mandates the Commission to promulgate rules in the area of data record keeping and reporting, real-time reporting as well as oversee swap data repositories and swap execution facilities. All of these duties require the Commission to have a greater understanding of, and reliance on, technology. Investment in technology hardware and the recruitment and retention of qualified employees to deploy this technology will undoubtedly strain the Commission’S budget. It's imperative that we understand how to optimize the scarce resources we have so we aren't left behind by the people we are charged with regulating.

After the Flash Crash of 5-6 and with the new disruptive trading practices and anti-manipulation requirements in Dodd-Frank, the Commission must understand the potential negative impact that today’s technology may have in our industry. Weekly we hear concerns about high-frequency traders and how they are affecting the markets, both positively and negatively. Phrases like “quote stuffing” and “spoofing” are bantered about as the way algorithmic traders are gaming the market place. Sadly, there is a real concern that investors are sitting on the sideline because they don't think there is a level playing field. Perhaps my greatest concern is a runaway algo will trigger a cascade of events by other algo-driven traders that will totally collapse the markets.

Many questions need to be answered. Who is responsible for oversight? Who should be privy to what the algorithms are based on? Should they be regulated? How can they be regulated? Should they be allowed at all? Hopefully, we will begin addressing these questions today.

Once again, I thank Chairman O'Malia, the staff and all the participants in helping the Commission face these most important issues.

COMMISSIONER SOMMERS: Good afternoon. I'll join with the rest of my colleagues by thanking Commissioner O'Malia. At the last meeting, I spoke about how the relevance of this advisory committee could not be higher, but I think that was even before Dodd-Frank was passed. So I'll renew that statement today and say with the items that are on the agenda that the relevance of this committee has probably never been higher.

The items we're discussing today are several of the big ticket market structure items from the Dodd-Frank Wall Street Reform Act as well as the report from the May 6 flash crash. An area that I'm very interested in, as are many other market participants, is what the requirements of trading swaps on a SEF will be. The CFTC and the SEC heard a great deal of concern about this issue from market participants at a joint round table on September 15. The CFTC staff has recently estimated that there could be over 40 entities that may register as SEFs or designated contract markets. The designated contract market model is easy for the Commission and market participants to deal with. We know how they work and market participants know how they work. SEFs are new and the relevant statutory language is not very clear. When you read the new statutory language in conjunction with the existing statutory language, it raises some questions. I favor the view expressed by many of the market participants in the September 15 round table that the definition of SEF must encompass multiple models and must be flexible enough to allow several ways to buy and sell contracts on SEFs.

Two other issues that the Commission will address very soon relate to anti-manipulation and disruptive trading practices. Much has been said about how technology, and more specifically, high-frequency trading impacts trading and whether it's disruptive or manipulative. The work of this Committee is very important as we move forward with these efforts, and I certainly appreciate the perspective and the input that you as committee members will provide on these issues.

Other big ticket items from Dodd-Frank are the requirements for swap data repositories and real-time reporting. And it's so important for us to have these types of forums as we consider the appropriate policy responses to our future's regulatory structure.

I recognize the enormous challenge we face in comprehensively changing the regulatory landscape, and I'm grateful for the industry participation today and to Commissioner O'Malia and his staff for organizing this meeting. Thank you.

COMMISSIONER O'MALIA: Thank you very much. Commissioner Chilton.

COMMISSIONER CHILTON: Thanks for doing this, and thanks for your staff. There's an old comic strip that some people may remember, Flash Gordon. They made it into an animated series and into a television series that was on the SciFi Channel a couple of years ago. A buddy of mine reminded me that when Flash Gordon started, they called him Speed Gordon in Australia, because "flash" at that time in the '30s was seen as a negative thing, that there was a negative association with it, that you would be flashy or showy or even dishonest.

I'm not suggesting that flash trading or robotic trading is in any way dishonest, certainly. There's lots of great advantages. The access and better audit trails, to name a few.

But it's certainly not showy, because we're not shown anything about these algorithm trades. Unless we ask, we don't know anything about the trading programs, because it's proprietary information. And I understand that businesses need confidentiality and they need to keep their competitive edge, but as we've seen, this type of trading can impact markets and possibly lead to problems.

So as regulators, it just seems to me and folks that are concerned about these markets, like you-all, it just seems that we need to get a better handle on the trading, as my colleagues have said, and look at it in sort of a comprehensive cross-market fashion. I wonder whether or not our agency should have people that are specifically dedicated to looking at algorithmic programs or looking at them in general or whether or not people that use them should have to make some certification that they meet certain parameters. Should we as regulators or other brethren regulators have any limits whatsoever on this type of trading? I'm not saying one way or another. I'm just raising questions.

Finally, there's some news stories this morning about the flash crash, and that's good. It's good that people question reports, and we should expect that, and it should be welcomed, but I did want to comment specifically on one issue about the trade in question, that large trade my colleagues have spoken about. There's news articles that said it was potentially a price-sensitive trade, and our report concludes that it was not, that it was price insensitive and didn't adjust during the algorithmic order flow due to any price variation.

Most folks are aware that under our law, the Commodity Exchange Act, we're prohibited from revealing any information that would disclose an individual trader's position, so we have to be very careful, and sometimes people think we're a little bit cryptic in what we're talking about, but we have to be exceptionally careful in publically addressing some of these particular trades. That said, I just wanted to be real clear that we're all well aware of the nature of the algorithm utilized by us at the Agency, and we've spoken with the executing broker for this trade, and that analysis is accurately reflected in the staff's report.

And there is another allegation in some of the stories this morning that there was a breaking mechanism. That's what they called it, a breaking mechanism, indicating some type of price sensitivity. All I'd say about that is that there's been really an exhaustive analysis of this, and Andrei can probably talk about it a little bit later, but I'd caution against drawing any specific conclusions. Just looking at the raw data. What may appear to be an intentional breaking could be accounted for with a number of factors. Volume, for example, could have slowed it down. So if you look at it this way, if you see a car and it's slowing down, you might assume that the driver has tapped the brakes, but in reality, maybe the car has just hit a little bit of an uphill grade, and that could slow it down.

So I appreciate that people are asking questions about the report. I look forward to our staff sort of giving us a more granular analysis, but I have a lot of confidence in the good work that they've done and the SEC has done, and based upon what we've learned from the executing broker in addition to the traders themselves. So I feel like we're in a good place. So thanks very much, Scott and your staff, for doing this, and I look forward to the meeting. Thanks.

COMMISSIONER O'MALIA: Thanks. I have a couple of housekeeping matters. This meeting is being recorded, push to talk on the microphones, and please refrain from putting any Blackberries or cell phones by the microphone, because they will cause some interference.

We're going to start with our first panel presenters. We have Dr. Andrei Kirilenko, the Senior Financial Economist with the Office of Chief Economist here at the CFTC. Dr. Kirilenko will present a summary of the May 6 staff report to the Advisory Committee and an academic paper he coauthored entitled, "The Flash Crash: The Impact of High Frequency Trading on an Electronic Market." Dr. Kirilenko also served as a CFTC staff member in the Joint Staff Report.

We also have Bob Pease, a trial attorney with the Division of Enforcement, and he leads the team for -- the rule-making team for the antimanipulation and disruptive trading practices authorized up the Dodd-Frank bill. Mr. Pease will explain the issues and policy questions surrounding these new authorities, and in Tab 6 of your books, we've provided the statutory authority, so as Bob goes through and explains it, you can read along in the statute and you'll understand how difficult his job is going to be.

So we're going to start with Andrei and move on to Bob, and then we'll open it up for some discussion. Thank you.

DR. KIRILENKO: Thank you very much, Committee Chairman O'Malia, Commissioners, Mr. Chairman. There is slides that will probably come up momentarily. I know when people call me Dr. Kirilenko, I'm in trouble, so I'm expecting some trouble from this.

So what I'm about to present to you is a paper called, "The Flash Crash: The Impact of High Frequency Trading on an Electronic Market." It's coauthored with Pete Kyle, Mehrdad Samadi and Tugkan Tuzun. It's publically available, and this presentation and the views presented here are our views. They're not views of the Commission, commissioners or staff of the CFTC.

This paper is also referenced in the report as providing the analytical foundation for some of the statements that were made in the report.

Just to recoup for you about the flash crash, the picture that you've probably seen many times, this is the picture of Dow Jones Industrial Average, E-mini S&P and S&P 500 stocks started moving together, falling down and then recovering.

Shortly thereafter, about a month and a half after that, there was a company, Market Strategies International conducted a survey of US retail advisors, and about 80 percent of US retail advisors at that time believed that, "overreliance on computer systems and high-frequency trading" were the primary contributors to the volatility observed on May 6. So this prompted us to look more specifically into what happened in there, and some of what happened is in the report that you see in the position on September 30. Also has a section on the E-mini, and the analytics are in the paper that was issued on October 1.

So what I will discuss today is something that's specific to the June 2010 E-mini

S&P 500 contract. This is the price and volume chart, so you see that the volume spikes up and the price goes down an goes back up in the matter of a few minutes. We also reconstructed for this analysis the entire order book depth, and you can see that there is a collapse on the buy side as much as on the sell side at that time.

When we're looking at these aggregate indicators, market price, market trading volume or market wide depth, it's not entirely clear what happened. So if we here have, on a daily basis, available to us audit-trail data and end-of-day position data, outside of May 6, any day, on all the contracts that are traded in our exchanges, all the contracts that we regulate, we have this data. We have the data. This data is very exact. It has the exact identities of traders who traded. It has transactions in which they participated. We have the exact sequence in which these transactions took place, because we have -- even though the time stamps are not as granular as we always like them to be, but we have the ID indicator from the exchange that gives to us the exact sequence of transactions. We also have for each transaction exactly who was in the market, whose order was entered first and whose order came in later and executed against it. So-called passive and aggressive flag.

So we're not guessing anything. We know exactly who's done what in these markets. And when you compare our analysis with other things you may be reading, please keep in mind that our data is what is the most exact audit trail that we could find. Other people may be looking at portions of it, some of it and other things.

In addition to that, the information in the May 6 report is based not just on the numerical and quantitative analysis, but on numerous interviews whose market participants were present on that day, including market participants who specifically participated in some of the most important trades that happened on that day.

So what we've done, then, is we've grouped our traders into categories, so the paper goes on about describing how we grouped them. We basically looked at profiles of their execution patterns, and we grouped -- we created one group, let's call them market makers, and out of the market makers, those are the traders who trade a lot during the day, but they typically revert to their positions around, let's say, zero, around small number relatively quickly throughout the day, and then they start flat and typically end flat. Out of those, we selected a very small number of 16 trading accounts that specifically account for an inordinate amount of trading.

We also selected fundamental buyers and fundamental sellers. Those who they may both buy and sell. They don't have to be only buying or only selling, but they accumulated directional positions throughout the day.

And noise traders, those who trade no more than nine contracts per day. As you can see, there's a very large number of participants who trade maybe once or twice a day. A very small number of contracts.

And the rest we call opportunistic traders. These are your cross-market (unintelligible). These are your technical traders. Those are the ones who fall somewhere between fundamental traders and market makers. They may accumulate a directional position. They may sit on that. They may trade around it. They may go back. They may accumulate something else.

So we've separated the entire cross section of over 15,000 accounts that traded on May 6 into these categories, and what we wanted to see is how they interacted with each other, because we believe that these markets are an ecosystem. This is an ecosystem of market participants who trade with each other, and their responses are best responses to each other's strategies.

What you can see here is roughly where these different portions of the ecosystem fall. On the vertical axis, you can see trading accounts in percent of volume grouped and percent of volume in decreasing order, or in percent of the number of transactions. It shouldn't surprise you that high-frequency traders account for a large fraction of volume. These are individual account by account. You cannot see the actual dots corresponding to the accounts, but you can see the shaded areas where those dots mostly fall. So that is the overlapping sort of ecosystem of this large electronic market. Very, very liquid market.

Just very briefly, high-frequency traders, we looked at when we classify them high-frequency traders and other market makers, we actually looked on this three days prior to May 6, because we believe market makers are in there all day every day. They're not just there on May 6. So we selected accounts that were there before, and high-frequency traders accounts were somewhere around 30 to 35 percent of volume and transactions. Remember, these are 16 accounts, 16 trading accounts. That's a lot. Buyers and sellers individually -- fundamental buyers and sellers individually account for about 10 to

12 percent of the total. Let's keep in mind that these are the accounts that actually take the contracts off the market and keep them overnight. So these are the ones who come into this market and for whom this market is to actually manage their exposure, and the rest of the market, the rest of the 20 percent intermediate during the day. So 80 percent of this market is an intermediation market. And this intermediation market operates on different time scales.

When we were trying to answer the question what do the high-frequency traders do and how they behaved on May 6 relative to other days, we've constructed for the group of high-frequency traders what their net holdings are. So these are the number of contracts second by second that they hold, either long or short, and you can see that we start them all at zero on each one of these days.

So you can see that they revert to their sort of target inventory position. Their target inventory position fluctuates somewhere around

3,000 contracts in each direction. And if you look at -- if I were to switch the May 3, May 4, May 5, May 6 for you, you wouldn't know which one of those days was which. It looks like what they were doing on May 6 is very similar to what they were doing on the previous three days, to us.

Now, the important part is they don't accumulate a position larger than a certain relative target. You'll know now from the May 6 report that the largest trader was trying to sell 75 -- or sold 75,000 contracts. So as you can see from this, these traders are not in a position, not interested in accumulating this size.

The intermediaries, the slower participants, are the ones who are also making markets, and their behavior, however, you can see is quite different from high-frequency traders in that they do get caught. They do get run over by the price moves, especially when the price moves are sharp. The price on May 3, you can see when the price moved up, they ended up on the short side, and you can see on May 6 when the prices move down, they ended up accumulating in that long position. This is very common for the intermediaries. This is their big worry, to be caught on the wrong side when the prices move. You can see that compared in contrast to high-frequency traders who did not get caught, or at least did not get caught by the price. Mostly slower intermediaries, slower market makers did.

What we've also done is that we looked at how these participants adjust their positions, and what you'll notice is that high-frequency traders trade in the direction of price movement for the first five seconds and then trade in the opposite direction. That is, either their speed or their predictive ability enables them to buy when the prices are about to increase and sell right after that. On May 6, they seemed to follow the same strategy, only do it faster.

In contrast, intermediaries trade opposite the prive movement for the first two seconds and then trade in the same direction after three seconds. So they do get run over by the price move. And on May 6, that's what happened to them.

We also looked, as I said, we have the exact flag of whether high-frequency traders provided liquidity have taken liquidity. We find that generally, high-frequency traders both provide and remove liquidity on -- it's about 50/50, but often it is more. They more aggressively remove liquidity than passively supply it. They followed the same strategy on May 6.

Intermediaries, as you can see by the direction they were trading to, they typically provide liquidity and did less so on May 6. We also investigated specifically what during the down time and the up time what the high-frequency traders and slower market makers did, and we found them to be high-frequency traders following the same strategy and intermediaries getting caught and then withdrawing.

This is the Hot Potato chart. The chart that on the red line indicates to you this is the ratio of trading volume to net position. People see the exact description in the paper of how we calculated this. And we interpreted as there was a period of time in the markets when high-frequency traders and other traders were not there or not forthcoming for some reason and the high-frequency traders were the only ones that accounted for a majority of trading volume.

We looked at what typically fundamental traders do and the large seller whose sell-out rating was executed on May 6 is in the category of fundamental sellers here. As you can see, the important part here is the difference between buy and sell, so for the buyers, that's about 50,000 contracts. 78,000 minus 28,000 on the way down, and for the sellers, that's about 84,000 contracts. And that imbalance is seemed to be picked up by the opportunistic traders who are demanding large price concessions on this point.

On the way up, the imbalance between fundamental buyers and fundamental sellers is not there anymore. You also can see that high-frequency traders on the way down and on the way up as well as the intermediaries buy and sell about the same amount.

We've also looked at the aggressiveness. Some of the things that we are looking at specifically in response to how much more visibility and what other additional indicators market participants may benefit from when ascertained in market conditions, we looked at aggressiveness and balance. That is aggressive buying minus aggressive sell cumulative.

We've estimated some price impact of different market participants and what their strategies have done to prices both on May 3-5 and May 6. As you can see, the title of the paper is "Impact on Market of High-Frequency Traders," so this is how we define market impact. You define high-frequency traders the way we define them in the paper. Flash crash you know.

Now we move to what this quantitative evidence combined with other evidence seems to suggest to us is that a large fundamental seller initiates a sell program, and then at some point, high-frequency traders, as they typically do, reverse the direction of their trading. They start selling.

These fundamental opportunistic buyers, fundamental buyers are not forthcoming during this period of time. Or at least they're forthcoming, but not at the rate to pick up the sell program. Opportunistic buyers are demanding price concessions. There's a five-second trading pause, then there's a reopening procedure, prices stabilize and then fundamental buyers lift prices back up, and by 2:08, prices are back to their central time. Prices are back to their 1:32 level.

The report identified a lot more. We went to extraordinary lengths, as Commissioner Chilton said, we are bound by the statute. We can only reveal what we can reveal. At the request of Congressional committees, we revealed for the benefit of the public and the markets a lot of what happened on that day, and it is important to -- we also showed how this particular event propagated to other markets and resulted in liquidity events in the securities markets more generally.

So now we're in a situation where we're not in Kansas anymore. We know now that the largest trader will always have an impact; that volume is really not the same as liquidity, especially the times of high volatility; that HFTs are probably more volume rather than liquidity providers. The slower liquidity providers get caught on the wrong side. There's some remaining questions remain: Why does it take so long for fundamental and opportunistic buyers to come in? And as Chairman Gensler said, there certainly, as markets become -- as technology in the markets changes, we need to revisit the issue of what the safeguards might be against practices that may be disruptive. They may not be intended to be disruptive or they may be intended to be disruptive, but they may result in a disruption, and we need to deal with that.

COMMISSIONER O'MALIA: Thank you very much. There's a lot of material here that Andrei has laid out, to say the least, and I want to make sure everybody is -- if you have any questions, we're on schedule, and while the topic is fresh in your head, if you have any specific questions to Andrei, probably best to ask it now before we move on to Bob's presentation. Any concerns? Questions?

If not, Andrei, let me ask you one question. In the May 6 report and in your academic paper, you talked about the Hot Potato Volume and the role it had in contributing to the kind of liquidity issues and the sell volume, for example. Can you elaborate on that a little bit more, what role it might have had?

CHAIRMAN GENSLER: If you go back to that chart, because I had a question on the same thing. So the chart would help. There was a Hot Potato chart.

DR. KIRILENKO: Right. There are two parts to it. So this chart, as you can see, specifically looks at the spike in the hot potato effect around past 1:45:18. So this is already very, very close to the time when the stop-logic functionality kicks in.

So there are two parts. One is how did the sell algorithm respond to volume and which fraction of this volume it was responding to. That was happening prior to this. This is more -- we consider this to be more indicative at this point of relative lack of fundamental and opportunistic traders. It's not necessarily at this point the algorithm may or may not be responding to this particular spike in volume. Remember that this is the ratio of trading volume over net position. So as net positions stay relatively flat, the trading volume increases. It will show up as an indicator like this.

It's somewhat different from trading volume in the prior minutes that were generated by the rebalancing strategy of the high-frequency traders who were reducing their net positions. So they've accumulated the net long position, and then they seem to have reached a certain inventory level, and they started reducing that. As they're reducing that, they're going through a lot of volume. So you see again is that ratio of -- as their net position is going down, the denominator, their trading volume at the same time is increasing. You see that increase, and that is -- that increase is possibly something that the algorithm has responded to.

Again, we're viewing this more as an indicator of a particular imbalance in the ecosystem of the market rather than something that is more than that. It may have been more than that, but at this point, it may not have, also.

CHAIRMAN GENSLER: I'm not going to focus on this chart, because I'm not sure I follow it, but the concept that you call hot potato volume and I call it a rally and ping pong, what do you think happened on that day? Why wasn't a 9 percent volume limit good enough to protect that seller at that moment? What else was going on?

DR. KIRILENKO: I think that -- let me

perhaps start by asking a somewhat broader question is that automated execution algorithms, in my opinion, are not designed to be disruptive. The automated execution algorithms are like cargo trucks. They're supposed to deliver a certain customer order from place A to place B, and generally, they're designed to go with the traffic. They're not designed to disrupt traffic or do something else. That's not what they're supposed to do.

However, a particular way of driving the truck on the congested road may cause other market participants to respond to that, and in response to that, then we can see what I think happened on May 6 is that typically, a particular execution could take a market that's given, a market that's not going to change what it does. But on that day, which was already a turbulent day, and a very large volume coming in very fast, the market no longer could be taken as given. It actually changed in the response, as we could see from the behavior of the cross section of participants.

They stop changing what they do. And as they changed what they do -- what does it mean market participants change what they do? They start adjusting their positions. And they started adjusting their positions, and they generate the volume. And the truck responds to volume. It says they go with the traffic. It doesn't say I go with the traffic but I never increase, I never go beyond 55 miles an hour. It just says I go with the traffic. Traffic goes 100 miles an hour; I go 100 miles an hour. Traffic goes 120; I go 120.

I think that is what -- I'm sorry I have to refer to analogies like this, as again, some of the things we would like to discuss, we cannot always. I think that response of the market and that response of the algorithm to the market created the loop that led to the extreme volatility that we observed.

CHAIRMAN GENSLER: I'd like to understand if you agree with what Commissioner Chilton said, or a variation of what he said, that during those critical minutes, that this algorithm was not price limited, or at least to our knowledge it wasn't price limited.

DR. KIRILENKO: We have had discussions with the executing broker, and we had analyzed the execution profiles of many, many market participants. In fact, 48 hours after May 6 happened, we have seen execution profiles of many, many market participants, including the large traders, and some of the analysis is presented in the report.

By analogy with the truck, it might well be that if you're looking at the execution profile, and the cargo trucks are not designed to be the fastest vehicles on the road, so if the traffic is moving fast and it seems that the cargo truck is not accelerating as fast as the traffic at this point is moving, it would be erroneous to call it that the actual truck is slowing down.

CHAIRMAN GENSLER: You lost me on your metaphor. I was just asking whether, to your knowledge, was there any price limit in the algorithm or not.

DR. KIRILENKO: We are not aware of any specific price limit that was built into the algorithm. Now again, this does not mean that this algorithm does not take into account prices and quantities that are present in the market. This algorithm does compute prices and quantities, because after all, it submits limit orders, and limit orders must have prices in them. So in order to execute, the algorithm has to see where the market prices are and what the quantities are, and it actually calculates prices and quantities. Also knows that if it submits prices and quantities outside the bans imposed by the exchange, those orders are not going to get executed. It can't submit an order of 5,000 contracts, because that order is going to be rejected. You cannot submit orders outside of the price bans. Those orders are going to be rejected. It knows that, so it does -- it's an algorithm. It takes into account a lot of information. Now, we are not aware of the fact that it has a specific price limit.

CHAIRMAN GENSLER: The only other thing I had was as I understood the day, really it was the evening of May 6 or maybe it was the morning of May 7, I lose track of it, that I think staff views working with the Chicago Mercantile Exchange, if I remember that evening and that next morning, that there was a confluence of events. It was a very shaky market out of Europe, and by 2:30 east-coast time, it was a very fragile -- I would use a different metaphor: The ice was very thin. But then something came onto that ice. And it took, as it turned out, about a six and a half percent price concession to do this $4 billion trade. The first 2 billion of it took that price concession, actually, more accurately.

So it sort of was a confluence of events, and then, of course, we had all the breakage in the securities market, that fragmented marketplace that some stocks went to a penny. I didn't read your report as suggesting that this large trade caused penny of shares trades in the securities market, but it's this sort of three chapters. Very thinning of the ice until 2:30, a large trade puts this significant pressure on the market, and then the spillage and breakage in the equity markets. Does that seem about right? I mean, do I --

DR. KIRILENKO: That is exactly right, and in order for us to be able to establish that, the work that we've done primarily and the analysis that we've done since the May 18 report, and that report was a confluence of events, because if you look at these prices, these price movements, it's not really entirely clear who is moving and why prices all seem to be moving together.

Twenty-four hours after the event happened, we did have execution patterns of traders in our market, and from those execution patterns, it was not entirely clear what exactly happened. If a large trader came in and submitted a market order for 35,000 contracts and it completely evaporated liquidity on that side, we wouldn't need to write the report. We would have just come out and said somebody came in with a very, very large market order and disrupted trading. But that's not what happened. What happened is that there was trading done all around the market, and what we've done subsequently, the work that was done jointly with the SEC, we went over something along the lines of five-billion records and put together order books for the E-mini, spider and the S&P 500 stocks, and based on that, we were able to see changes in liquidity in these different markets and how it propagated.

Now, it did not, of course, answer the question entirely why did the -- it was reasonably clear to see the propagation mechanism, and we conducted some entries to do that from the E-mini into the S&P 500 stocks and then to the spider. It was not entirely clear why would Extentia trade for a penny after what happened, happened. And that happened and we -- again, jointly with the SEC, we conducted a number of interviews to find out, and the propagation mechanism that caused that to happen is basically related to pauses and to provision of liquidity that many, many market participants engage in. And whether they do it automatically through algorithms or they do it on the human scale, but basically, as prices move very large, it triggers pauses, and then humans go and look at the trading systems and decide what at-risk parameters they want to trade, and after they adjusted those risk parameters, some of them decided not to provide liquidity. Some of them decided to route orders. Not to internalize orders, to route them directly to the exchange.

So the sell orders were coming, and the liquidity that would typically absorb some of that shock through internalization or through some additional provision was just not there at that price, and that resulted in trades at quite abnormal prices and broken trades.

COMMISSIONER O'MALIA: I was just going to ask you a question, but you answered it in that response there. Was it one big -- was it simply this large trade? And I think you've answered it was actually the liquidity that drive up it.

So I'd like to get some discussion going around that issue of liquidity and could this happen again, what are the factors that -- you know, we understand what the factors were that lined this thing up to put this in position, but what do we do about the liquidity issue? What do we need to think about as regulators to ensure that these kind of things don't happen again? Mr. DeWaal?

MR. DeWAAL: Actually, I have a question first, because I'm sort of struck by the conclusion that the high frequency traders removed the liquidity, because certainly in conversations I've had, the spin could be viewed as a bit different. I mean, at least as the trading began -- and I don't have the benefit of the CFTC/SEC report in front of me. The high-frequency traders were actually fulfilling the -- were actually the offset to the mutual fund that was selling, then obviously as the spiral began, at least as I talked to some of the

traders, what they're saying is that their
algorithms were actually smart enough to realize
that there was something wrong with the market and
they should step away. And it was actually the
intermediaries who didn't have the benefit of
analyzing the market as efficiently and didn't see
that problem, and so they stayed in the market at
a time when they also should have logically pulled
out. In fact, it was the five-second pause that
brought the market back to coherence.

So I'm wondering whether this is not
looking at the glass half full, half empty,
whereas rather than pulling out liquidity, in
fact, the high-frequency traders were providing
liquidity until such time as they correctly
assessed the market as something fundamentally
wrong and they should step aside. In fact, that
analysis is validated by the fact that ultimately,
that's what, in fact, the market did itself. It
took a five-second pause, and things sort of got
back on the right track.

DR. KIRILENKO: I think we found exactly what you said except for the very first sentence that you said. You said I'm struck by the fact, and then you described exactly what was said. The analysis that we have corroborates what you just said, that the initial providers of liquidity to the large seller were the high-frequency traders. At some point, they seem to have reached their traditional inventory constraint, and then they started selling. And then that happened before the large price moved down, and they did not get caught on the way down, did not get caught on the way up, whereas slower market makers did get caught on the way both down and up.

So, now having said that, then, if we move beyond whether or not they were providers of liquidity or takers of liquidity, as I said, we have the exact flag of whether their order was there first or it was there second. Whether or not they actually were -- their order was resting or it came in and hit the order that was sitting in there.

As we say in the report of May 6, the

large -- if you look at the execution of the large seller, you can also see that they're about 50/50 aggressive impassive, too, on the way down and on the way up. So it's slightly different on the way down than on the way up, but also about 50/50.

So they're also not just aggressively removing liquidity. It's an automated execution algorithm that's designed to do many things that it does, and one of them is not necessarily to be removing liquidity, but also put in quotes so that the market comes to them.

So we could see that high-frequency traders generally remove more liquidity than they provide liquidity. They trade a lot against volume, so calling them liquidity providers is not -- now, compared to slower market maters are primarily providing liquidity rather than removing liquidity. Now, they do get caught, of course, if prices move.

MR. DURKIN: Thank you, Commissioner. I just need to, if I may, add some further contacts to the large order that's been referenced here, because I am concerned that my colleagues around the table may not have the complete context as we understand it of how the order was actually transmitted and entered into the order book.

So the 75,000 contracts, first and foremost, to put it in context, represented 1.3 percent of the 5.7 million contracts that traded in the E-mini and that were sold on May 6 on that day. And it represented an even smaller amount of the total instruments that were offering similar bait, and I really appreciate Chairman Gensler clarifying the confluence of events that took place during this particular day. You know, a great deal of the reference here has been on this particular order, but there was absolutely, unequivocally, fundamental negative financial economic political unrest occurring throughout that day, which lead to a very strong, bearish session throughout that day as well.

And during the 20-minute period in which this order was entered and executed, it accounted for, and I believe you did codify it accounted for around nine percent of the total sell volume. However, more important during the critical time period of the three and a half minutes that have been the subject of reference, it accounted for less than five percent of the total volume of the sales in that market.

In less than 75,000, less than half of the 75,000 lot order was executed during the sell off. In fact, a greater proportion was executed during the market rally off of its strong lows. The algorithm itself, as we understand it, was a volume-participation algorithm. So it wasn't entered in the context of 75,000 lot order hitting the marketplace. It was Al allocated across three 25,000 lot orders, and the objective of the algorithm was for each of those to represent 3 percent of the volume during that time period.

Of each of those three orders, they were broken up into over 1,000 smaller child orders, and each of those smaller child orders have randomized quantities between established minimums and maximum order quantities for each one of those respective orders.

Then the one point of clarification from our understanding is that each of those child order was entered with limit prices, and I believe Dr. Kirilenko actually did indicate after Chairman Gensler's question to reconfirm his answer that it was plausible that there were limit prices. We understand that there were limit prices for each of those orders. They were initially placed as passive orders above the current bid, and prices were only adjusted lower in defined increments relative to the market so that the order could participate and meet its volume objectives.

At the end of the day, the aggregate size of the participants' order, by virtue of this algorithm and how it was used, was not known by the other market participants. The participant could not know, given the anonymity of the trading on our platform, who was accepting the risk it was seeking to trans for. The orders, you know, the algorithm also did rely on not only issuing smaller-sized orders but utilizing iceberg functionality to further reduce the impact of the larger orders into the market.

COMMISSIONER O'MALIA: Dr. Bates?

DR. BATES: Dr. Kirilenko -- I'm not trying to give you a hard time by saying that, by the way -- one thing I'm very interested in just getting some more clarification on, I love the way you drew out the different types of trading and diagrammatically with high-frequency trading and so on laid out. High-frequency trading has had a tremendously bad wrap in the mainstream press linked to the flash crash where it's been demonized to some extent. And in fact, it was interesting to see that the flash crash really wasn't caused by high-frequency trading. It was caused by an execution, an algorithm, but really with much more human impact, parameterized, set up by a human and then set running. Not an automated, high-frequency trading algorithm. So I just want to -- you know, there was all that coverage of Nanex about quote stuffing.

I wanted to get your clarification,

because I think it would be great to actually say publically it wasn't high-frequency trading that caused it, and in fact, all that -- I'd love to get your view.

CHAIRMAN GENSLER: I've noticed that we're not going to get much advice. Brian wanted to state CME's view. You're stating your view. Everybody wants to get poor Andrei to state something on the record to confirm your views. But your advice to the commission would be really helpful, too.

DR. BATES: Fair enough. Well, my view on this is that there's a number of things that we should look at and perhaps state some best practices on. Around, for example, back testing of an algorithm like the execution algorithm that was put into the market. What kind of back testing under the kind of market conditions that we saw or varying kinds of market conditions may have discovered that this kind of thing could happen. And indeed, what kind of risk and market monitoring was there to detect for that algorithm to stop it from happening. Gary talked about smart algorithms on the high frequency side, and believe me, I wasn't trying to defend high-frequency trading. I'd love it if algorithms in general got a clean bill of health. They didn't, but what kind of mechanism should be prescribed to be able to detect that? Why couldn't that algorithm have detected and pulled that from what it was doing? So I guess if I was going to raise some issues and recommendations, better back testing under all market conditions and better monitoring and real-time pre-trade risk management on an ongoing basis, and perhaps even for the CFTC, shouldn't you have a NASA type launch-control system where you could see something flashing red and you could get on the phone or get in there and be able to alert people that something's happening across all trading venues. Are these not things that we should perhaps be looking at? Was that suitably nonpartisan?

CHAIRMAN GENSLER: It's advise.

MR. DURKIN: Mr. Chairman and Commissioner O'Malia, I appreciate your point in terms of offering recommendations and advice. We certainly have some from the CME Group. In particular, I do think that there are a number of processes and automated capabilities attendant to both the trading platforms themselves as well as front-end system technology that should be adopted as best practices, and we should really be looking at that in that context in terms of what's in our tool kit today that we could be using in a more broadened basis as an industry in general. I think we've been pretty clear in terms of some of the innovative capabilities that we've been driving in the context of stop-loss functionality, in the context of credit controls, and this committee has, I think, taken a very responsive and positive step forward in moving that initiative ahead in terms of automated credit controls and establishing some criteria in that regard, or at least the Commission is considering such.

You know, there's definitely functionality in place today in the context of price banding as well as automated parameters that can be both on the front end of trade risk systems and also at the trading platform that could limit the cascading type of effects that we experienced on May 6. In fact, as you alluded to, Mr. Chairman -- and we appreciate your acknowledgment that the stop functionality did kick in. Now, is there a way for us to better calibrate going forward when it kicks in or the parameterization of how it kicks in? Absolutely. So I do think that there are a number of things at our disposal right now that we could be looking at more closely as a unit to say how can we learn from that and how can we expand that should some of these things become best practices.

COMMISSIONER DUNN: This has really been a very enlightening discussion here. And I guess Nanex published their report Friday, which is looking at the report that has come out of the Joint Advisory Committee report. It all helps me understand that there's more than one side to these issues here, and we're really looking at this advisory group. We're looking at the joint advisory group that we have on the flash crash take place. They're going to get this information that Andrei and his colleagues have presented. But feel free, anybody that's on this committee, to give us your input on it as well. This is something that we absolutely have to understand what's taking place in the marketplace, and it is just imperative that we have all sides of the issue here. So I appreciate the discussion that's taken place.

COMMISSIONER O'MALIA: As I stated in my opening remarks, this is building on a previous meeting which the focus of that meeting were the recommendations of the FIA to implement certain risk functionalities to avoid situations like May 6, or other situations, but we obviously have a teaching moment here, and maybe you can think about this a little bit more and get your thoughts on it, but what do we need to build on from the

FIA paper in light of the situation we have with
May 6 and the recommendations we're going to need
for disruptive trading practices? How does that
paper grow? What additional controls might be
necessary? We should probably go back and revisit
that FIA paper a little bit and understand what we
need to add to avoid another May 6. If anybody
has any thoughts on that immediately, I'd love to
hear them. Think about it a little bit more.
Before we go to Bob, I want to make
sure -- anymore questions or thoughts?
Christopher?
MR. HEHMEYER: Just an observation.
There's some very smart people here, and your
paper's very good, by the way. It was obviously a
lot of work and you should be very proud of it.
DR. KIRILENKO: Thank you.
MR. HEHMEYER: So I'm surrounded by a
lot of smart people, but I've been around these
markets for a long time, and one thing that I
think it's important to take away from this whole
thing is that this circuit breaker was very

effective in calming this market down. I think that should be kept in mind as you look at policies that can be very complex, and then a simple circuit breaker said -- in five seconds. Maybe the technologies used to be a day. It used to be 30 minutes. It used to be -- now it's five seconds. Reasonable people I think can debate the logic of the circuit breaker, but that was very effective in calming this market down.

COMMISSIONER O'MALIA: Mr. Pease, we will take the macro or take it down to some very specific trading issues we have, as given to us in new authorities provided by Dodd-Frank.

MR. PEASE: Thank you. Sorry for the lawyer to go after the interesting economist, but I'll try to keep you awake. Good afternoon Mr. Chairman and commissioners, and thank you Commissioner O'Malia, the chairman of the Technology and Advisory Committee, for inviting me here today to discuss two rule makings. The new anti-manipulation authority of Section 753 of Dodd-Frank, and Section 747, which prohibits certain disruptive trading practices and gives the Commission the authority to prohibit other practices that are disruptive of fair and equitable trading. Of course, my comments today are my own and do not reflect those of the Commission or other staff members.

Section 753 of Dodd-Frank amends Section 6(c) of the Commodity Exchange Act and expands the authority of the Commission to prohibit fraudulent and manipulative behavior. This new section creates a prohibition against any person using or attempting to use any manipulative or deceptive device for contrivance. The new statute requires the Commission to promulgate the implementing rule within one year.

The text of this new section prohibiting fraud-based manipulation is patterned after Section 10(b) of the Securities Exchange Act of 1934. The courts have interpreted the Exchange Act Section 10(b) and Section 10(b)(5) to cover intentional or reckless conduct that deceives or defrauds market participants. New Section (c)(1) is similar to the antimanipulation authority granted in the Federal Energy Regulatory Commission and the Federal Trade Commission. FERC and the FTC have promulgated rules based on SEC Rule 10(b) and 10(b)(5) to implement their respective authority, but have modified Section 10(b) and 10(b)(5) as appropriate to the distinct regulatory missions and responsibilities.

Section 753 of Dodd-Frank further adds a special provision for manipulation by false reporting and a prohibition on false information. This provision is self-activating and does not require a rule making.

Congress also created a new Section 6(c)(3) entitled "Other Manipulation," which mirrors existing commission authority to prohibit manipulation of crisis. As with many of the provisions of Dodd-Frank, as staff well knows, Section 753 requires the commission within one year to promulgate a new rule implementing authority granted by Section (c)(1).

In Section 747, congress amended the

Commodity Exchange Act to prohibit specific trading practices that are disruptive of fair and equitable trading. Specifically, Section 747 makes it unlawful to violate bids or offers, to demonstrate intentional or reckless disregard for the orderly execution of transactions during the closing period or to engage in spoofing. Spoofing is defined as bidding or offering with the intent to cancel the bid or offer before execution.

Congress authorized the Commission to promulgate rules to prohibit these three enumerated disruptive trading practices and any other trading practice that is disruptive of fair and equitable trading. Congress did not provide a deadline for this optional rule making, nor is the Authority limited to one rule-making effort.

Section 747 also makes it unlawful for any person to enter into a swap knowing, or acting in reckless disregard of the fact, that its counterparty will use the swap as part of a device, scheme or artifice to defraud a third party.

Our rule-making team, which consists of representatives from each of the Commission's divisions, is currently drafting rules to implement the provisions of Section 753 and Section 747. In addition, the team continues to examine the events of May 6, in particular, to determine whether there are other disruptive trading practices we should recommend to the Commission to prohibit as disruptive of fair and orderly markets.

Staff is examining technological innovations in our markets and whether those innovations, particularly algorithmic trading programs, pose risks to the fair and orderly operation of commodity markets.

Staff is here to listen to the discussion this afternoon to help guide us in our review. Staff will be making complete recommendations concerning the implementation of the new anti-manipulation authority contained in Section 753 and the anti-disruptive trading practices already in Section 747 in the near future. Thank you and I look forward to answering any of your questions.

COMMISSIONER O'MALIA: I know I can count on Gary DeWall for a question on this one. He even gave a presentation in Chinese, I think it was, last week on disruptive trading practices.

Bob, can you give us a -- this is a pretty broad definition or statute in which we're supposed to identify and send a market specific direction about what's going to be tolerated and what's not going to be tolerated. Can you give us a sense of some of the trading patterns or styles that you've either heard about or are concerned about that you're looking at that you may advise the Commission on?

MR. PEASE: Well, we're looking at a number of different practices, quote stuffing and others that really are variations of spoofing. We want to make sure there isn't a loophole there, and staff's looking at that issue. For example, spoofing is defined as pulling back the bids or offers before execution. Certain trading strategies may involve a certain number of being executed, and so we want to make sure that we will make recommendations to the Commission that would cover those type of trading practices which we think would very well be abusive to the market.

We're also looking at, as I indicated, and want to hear from all the panel members here, what is it about algorithm programs? Is there anything about them that is either, A, inherently disruptive or could cause disruptions that we should look at potentially other issues that involve how the algos are employed. Does a large trade trigger different responsibilities of market participants and other issues like that.

MR. HARRIS: I have just a question. These disruptive practices that you're talking about, presumably you needed this enforcement authority because these practices would not constitute manipulation?

MR. PEASE: Not necessarily, no. Spoofing in the past had been prosecuted by the Commission as a form of manipulation. And you still would have the intent element. Congress specifically provided that in 747. But you don't have to go to the other elements that the Commission would need to prove to establish a complete claim of manipulation. There certainly could be instances where enforcement may recommend a 747 violation of spoofing as well as a manipulation violation.

MR. BREYAULT: One of the things you mentioned here is when you defined spoofing, it's offering with the intent to cancel. How would you determine the intent to cancel?

MR. PEASE: That's always a problem in enforcement cases. Certainly we're going to look at documentary evidence, but we're going to look at a circumstantial case also. The totality of the evidence. Does the totality of the evidence show that the intent of the traders is to pull back before execution? You can look at the volume that they're putting in of bids and offers and seeing that none of them are being executed or almost instantaneously pulled back. Certainly we'd love to have that incriminating e-mail, but that doesn't -- it's not always as simple as that. So we would look at the totality of the evidence. Certainly all the documentary evidence.

COMMISSIONER O'MALIA: Dr. Carr?

DR. CARR: I just had a question on the definition of spoofing. If someone submits a bid or offer with the intent to cancel and replace with another bid or offer, is that spoofing?

MR. PEASE: It depends on the intent, depends on the circumstances. That's not one that's easy to answer in isolation. We would again look at the intent of the trades, looking at what they were trying to accomplish, and there could be circumstances where that would be perfectly -- your hypothetical would be perfectly legitimate behavior.

MR. DURKIN: I think I see a few frowns around the table, so I'll be the -- I mean, that answer I don't think really gives anybody comfort in terms of how do you encourage electronic market making and trading and you start going down the path of dictating or establishing prescriptive requirements in terms of how long an order needs to remain in a platform before it may be canceled. I mean, that could have very serious effects on the market structure as it exists today. So I think that that is something that we as a group really need to kind of talk through in great detail in terms of what is intended by this, what is contemplated by the Commission, the Commission staff, and how could whatever path we're going down have either a positive or a very negative impact on market liquidity and people's willingness to step into the market.

COMMISSIONER O'MALIA: Dr. Bates?

DR. BATES: I'm actually going to say something in defense of Bob here, which is I think it is a very difficult issue to decide between, say, a high-frequency trading, which is continuously putting quotes out there but then changing them as things happen in the market, and this market manipulation we saw made very popularized by the Nanex report.

But what I've seen in the past, even with regulators like the UK's FSA, for example, in the equity spaces, that you can't just determine one circumstance is the thing that's gone wrong. You have to build cases over time. So you might detect that one of your surveillance rules has detected a scenario that looks like market manipulation. It falls in one of your market manipulation roles with temporal or logical things, but then that could have been an accident. We've seen a lot of high profile accidents in the last few months, actually with algorithms. It could have been something unintentional.

But then if you see it consistently from the same firm over time, you can then start asking questions and CFTC might go in and investigate, but I think one of the key things is you want to get it as up-to-date as possible to have the same sort of real-time monitoring that the algorithmic firms have. So I do think it's necessary to do that, particularly because of the bad press that it gets if you don't be able to monitor it.

MR. DURKIN: My comments are actually in support of what Bob has represented in terms of maintaining trading practices that are fair and equitable. We're very, very much all about that as an industry and a marketplace, and I definitely, to jump on your comments, Gary, I think a lot of it goes to the surveillance mechanisms and programs that we have in place at our various markets as well as at the CFTC, and it was very impressive to hear Dr. Kirilenko be able to articulate down to the exact order and the context of that order and the ability to reconstruct that trade allows you to build patterns. Patterns of conduct and activity, which I think can help the staff look at this from a surveillance perspective to see whether or not there was intent and whether there was a basis to be trying to manipulate or take advantage of the marketplace, and those types of things should be staunchly investigated and pursued. No question about it. And I think this industry in particular has done a pretty solid job of developing innovative ways to reconstruct the activities in these markets and we should continue to build upon them.

COMMISSIONER O'MALIA: Before I go to Gary DeWaal, there are some people here that have some money in these markets and have some aggressive trading strategies, and I will ask you to offer your comments and thoughts for Mr. Pease here. So before I do that, I'll talk to Gary.

MR. DeWAAL: Again, just in the area of possible guidance, to me, at the end of the day, the markets are all about prices and what -- there's a general prohibition of the foresee of engaging in acts that cause non-bona-fide prices, and to me, that's the critical provision. What bothers me about this -- and I remember saying something at the time when this legislation was being proposed -- and unfortunately, we're stuck with the legislation now, so it's a little bit too late, I guess, to complain about it -- is that in the abstract you're talking about in connection with 4(c)(a), 5(c), you're talking about conduct that's really just the placement of the order irrelevant of the price. It seems to me at the end, I would hope, that to the extent that there are enforcement cases that are premised on these provisions, that somehow they continue to be coupled with the end game, which is the causation of a non-bona-fide price, because otherwise, I think that, in fact, you will scare the market that something about canceled replace is fundamentally wrong when I think that kind of strategy has been around for quite some time, high-frequency trading and non high-frequency trading. Again, I think it's very, very important that it's all about the prices. It's either a price set -- and I've never, quite frankly, understood the difference between a non-bona-fide price under 4(c) or a manipulative price under 9. I've always accepted that somehow there's a difference. I don't know what they are, but to me, these conducts should be in connection with some price problem.

COMMISSIONER O'MALIA: Richard.

MR. GORELICK: Sure. Don't really envy the position of the Commission here to have to come up with rules that will both accomplish the objectives of the legislation here and strike the delicate balance that's important to make sure that the markets continue to function very well. It is a tricky obligation. I think regulators clearly need the all the tools that can be available to them to detect and deter abusive behavior and to be able to stop manipulation where it exists, so to the extent that we're moving in that direction, that's very helpful.

On the other hand, it's important that whatever rules come out of this accomplish a couple of objectives. One, there needs to be clarity. You know, the market participants need to know whether a strategy that they would like to pursue will potentially get them in trouble or is clear and permissible.

A lot of the concerns that have been expressed here about legitimate beneficial strategies that involve cancelling and replacing a lot of orders, that's exactly sort of the delicate balance that needs to be struck here. How do we put a rule in effect that will go after the manipulative behavior, and how do we -- without inhibiting the real legitimate behavior that both helps price discovery and helps to provide liquidity in the market.

And so I would hope that the objectives of clarity from market participants and of continuing to strengthen the market are kept in mind as we go about and define these practices that you're now required to go ahead and define here.

MR. WHITMAN: A couple of things I would say. I agree both with Brian and Richard's comments. I think they were very good.

When you look at this problem that we're talking about, I think it's not just this issue, it's several issues that you guys are facing. I think it really comes down to data. You need data and you need the ability to have people on staff who can interpret that data. Because if you can get down and you can get granule enough, you can see things in data that -- I'm nervous about making rulings without that, that basically encompass something that in the data is actually not wrong.

And I think there's ways that you can get at that. You can look at strategies and see what percentage of the time do they have orders in the market and over what percentage of time are they in the market are they getting filled. And what percentage of the orders that they have in the market are they getting filled on? I'm talking about an individual order or quantity.

I think back to in the open ALCRY days, we used to see -- this definition of spoofing, we used to see this, where you knew somebody was a big short, and then they just came out and they started offering and offering and offering. And the way you really got down to the heart of it was somebody would buy from them, and when they would hit them, would they sell it to them. And it was technically always supposed to be a violation if they didn't, that they had to sell it to you, but they didn't always do that. That was spoofing. Somebody that's backing out.

In an electronic realm, it's much harder, because an execution is an execution. Once you're hit, you're done. You can't back out of it, unless we put in some kind of rule about we can see the trade and back out in a time frame.

But I really think to come down to this, you're going to have very intricate situations that you're going to have to be able to identify patterns, and then out of that, then I think you can have really good rulings that would get what you want.

CHAIRMAN GENSLER: On data, this Commission's been probably in a pretty good spot, a spot that was tested on May 6. By 9 a.m. the next day, we had the whole book: Transactions, positions and the order book. We don't generally download the order book every day just because of the volume of it. We always download the transaction and position data every day from each of the regulated exchanges, and we've thought about it and we're actually -- part of our thinking as we go into the swap world, we might have to start downloading the order book as well.

I appreciate your point, because it then relates to money from congress and whether we get enough resources, and I always associate myself with Commissioner Dunn on that.

COMMISSIONER DUNN: I was just going to make that point, Charles, because you indicated we needed the data and we needed the ability to interpret. And frankly, given what's going on in the appropriation process, I don't think we'll ever have that. So then we must fall back to the SROs, to the exchanges and to the FCMs, and I want to know who here want to be responsible.

MR. DURKIN: As an SRO, we obviously take our responsibilities extremely seriously, and again, I'm deeply sincere about the progress that both the Commission and the SROs I think collaboratively have made together in being the frontrunner in the ability to develop technologies and capabilities to reconstruct everything that happens on our markets, and we do that, and that's a model that Chairman Gensler I think can be deeply proud of, and we were deeply proud of him in his testimony to be able to say what he said that by 9:30 in the morning, because some of us lived through that with him, that we were able as an industry to have a fairly solid handle on what happened on that particular day.

We're able to do that on a continuous basis as an SRO, and we have similar concerns, obviously, in terms of funding and whatnot, but at the end of the day, we know we have a responsibility to be able to effectively protect and monitor everything that occurs in our markets, and so therefore, we've invested tremendously in the technology capabilities to have all of that data readily accessible.

CHAIRMAN GENSLER: One of the challenges, and Commissioner Sommers mentioned the number that established maybe upwards to 40 trading platforms, these swap execution facilities. So in the futures world, we've had a little bit of a luxury. I'm not saying it's good or bad, but that there's not that many trading platforms, and there's one that has a rather large market share.

But in this swap world, if there are 30 to 40 to begin with -- and it could shake down. It might shake down to a handful later. There's probably only one way to integrate and look across disruptive trading practices like Bob's talking about, or manipulation across the market. There has to be an aggregator. Whether that's the Commission, as the statute says, or swap-data repositories -- but swap-data repositories don't have a regulatory function over the SEFs. I mean, this is something that we have challenged with, how to have an aggregated view for position limits, for disruptive trading practices, for manipulation, for all our enforcement. So we will need the resources to do that.

COMMISSIONER O'MALIA: This quote stuffing issue has been circulating a lot in the press, and I'd like to get a sense of anybody in -- can you define it? Does it happen in the market? What have you seen in the market? Are you familiar with this?

MR. HEHMEYER: We've seen it in back month crude oil and nat gas. The back markets, which are usually less liquid and not as active in the back months, they flood it with orders, cancel all the orders, and everybody's algorithms are trying to figure out what happened that could take a half a second to a second to create optionality in the front month, that you can then pick somebody off if the rest of the market changes. And we see it on a fairly regular basis, and it's pretty predatory, and I agree with Richard completely that it's a -- I don't envy your task. It's a little like the famous thing of the supreme court justice that said it's like porn: I know it when I see it. And it's difficult to write that, because it can be a slippery slope and getting into places where you get into art, right? The difference in art and porn is sometimes difficult to draw that line. But when you see it, it can be pretty obvious.

MR. GORELICK: The quote-stuffing allegations that I've read about in the press seem like they would be fairly obvious and pretty easy to detect. So I don't think that there's a big problem of detecting that if it's going on. It's not close to sort of the legitimate behavior where it's hard to draw the line and just real market making quoting activity where you have to adjust your quotes regularly to remain competitive and to be able to be able to offer good prices to the market. But if you're cancelling and replacing thousands of orders well away from the inside intentionally and then benefiting from that in some way, it seems like that's a pretty easy case to both detect and to prosecute.

In fact, one of the reasons that I've been a little bit skeptical about whether or not this played a major role on May 6 -- and again, I don't have all the information that's available here, but just generally, my sense has been this would be so easy to detect, there wouldn't be any -- it wouldn't make any sense to do it, and it would also be just a very easy case to bring.

I've said to some people that, hey, if I was at the SEC, it probably would have taken me about an afternoon to figure out -- you know, to look at the specific allegations in the reports, figure out what exchanges they were being conducted on, call up the exchanges, ask who sent these orders, and then call up the people who sent the orders and say why did you send these orders? If they have a real good answer, then maybe that's something to pay attention to. Otherwise, you've got an enforcement action that should be pretty easy to win. So that quote stuffing stuff, to the extent that it exists, should be really easy to distinguish from the legitimate behavior that I'm concerned about inhibiting that really improves market quality.

COMMISSIONER O'MALIA: Bob, I don't think you mentioned this in your statement, but part of the discussion last meeting was making sure that whatever algorithms go into the market have been back tested and tried and used -- just all the back testing. Occasionally, mistakes are made and algorithms do go into the market that ratios are different or there's a mistake. It happens. How do we treat that? Is there an opportunity to treat it like a rogue trader and we'd apply some sort of a strict liability to it or --

MR. PEASE: That's an interesting question, and of course, being an enforcement lawyer, I will say it depends, and again, it will depend on the totality of the circumstances.

This is an algorithm that has gone -- did they test it and knew it had problems with it but they put it in the market anyway? Well, we might have a different view of that type of an algorithm. Is this one that had worked properly for some period of time and something happened and it caused a disruption? We're going to look at that situation very differently.

We're going to look at a situation where the programmers developed the algorithm and it's put immediately into the markets. Instead of being tested, it's going live right away or with minimal testing. We're going to look at that one very differently.

So there are a number of different sequences and circumstances, and we're going examine before we're going to jump to a conclusion as to whether it was disruptive or not.

COMMISSIONER O'MALIA: Do any of the market participants have an opinion of kind of an incentive or some sort of punishment for trading behavior that would make -- at least you understand what the consequences are from an enforcement standpoint? I know there's been a lot of discussion about some certainty here, and obviously, building cases built on fact using the data on trades, but is there -- in terms of an outcome. Gary?

MR. DeWALL: I do know a number of exchanges around the world have a specific provision that if you have a percentage higher than a certain amount of unfilled orders, you're paying the penalty, and it's calculable, and you can assess that in advance.

MR. DURKIN: That's correct. It's part of our rules and our requirements at the CME Group that we put all our users through a very strict test in terms of order-to-trade ratio, and they do understand that there is a monetary penalty associated with that, and that's just an adjunct to our overall surveillance.

So in looking at the activity in general, I mean, you know, parties may very well be subject to disciplinary action under our rules and regulations if we feel that their trades or their activity created disruption to the market, and it's very clearly spelled out in our rules.

Lastly, we do have under our liability policy for error trades under our Rule 588, if a party has been known to be responsible for entering orders that results in errors or price adjustments, because it was outside our prescribed limits, those parties may very well be held liable for the losses that have been realized by the persons whose trades were busted or price adjusted. So again, those parameters are very clearly outlined in our rules.

CHAIRMAN GENSLER: You mentioned parameters on order-to-trade ratio, so it's the number of orders per trade, and I didn't know if you had --

MR. DURKIN: That's actually articulated in the policy.

CHAIRMAN GENSLER: Right, but I was curious what the -- I'm an old numbers guy. What is the ratio itself?

MR. DURKIN: You know, it's broken down by market, so it's a whole litany across every product. We look at order to trade ratio, and we update those routinely so it's not just stagnant. We'll look at the demographics of the market, and we're in routine communication with the market participants in terms of why they're changing, what they're --

CHAIRMAN GENSLER: Is that on your

website or somewhere?

MR. DURKIN: Correct, and I'll get them to you.

COMMISSIONER O'MALIA: I guess before we go to break, I asked about the quote stuffing, and Chris said yeah, he's seen it in nat gas and oil. Either one of the exchanges want to comment on what the policy might be to address that?

MR. DURKIN: Well, I think I commented on my policy in terms of our requirements for being subjected to investigatory process and prosecution if you're found to have been engaging in disruptive practices to the exchange.

So we have a very extensive regulatory surveillance program that looks at activities on a daily basis, and if in our monitoring or through any allegations that come our way that we're able to find and build a case, we take the appropriate action.

COMMISSIONER O'MALIA: Have you caught this quote stuffing yet? Or identified it?

MR. DURKIN: I'm not prepared to talk

about any specific cases.

CHAIRMAN GENSLER: I was wondering if Chuck had anything from ICE. We've heard so much from CME, you've been kind of --

MR. VICE: Bryan's done a great job.

CHAIRMAN GENSLER: I know the press is here and everything, but we always like to give you equal access.

MR. VICE: I agree with essentially everything he said, and we have very similar policies, as you might suspect. I mean, particularly on the volume ratio, we're in the process of enhancing that policy so that it additionally penalizes orders that are further away from market. So the further away you are, it has a multiplier effect on what your score would be, therefore, and likely that you would incur some kind of charge. So we're in the process of kind of overhauling, taking that multiplier into effect, what are appropriate benchmarks. As Bryan said, in these different markets, depending on what the liquidity is, you develop different benchmarks.

We dialogue with the high-frequency traders on a daily basis, giving them feedback independent of formal policies, giving them feedback if we're seeing a lot of orders from some high-frequency trader, particularly if it's not one we typically see that level of orders from. And they have tremendous downside if they have problems, as we all know, so there's in addition, I think, to the exchange penalties, it's more than like if anything goes wrong on their end, they're going to lose a lot of money in the market to begin with.

So I think even before the CFTC gets to the point of piling on with some additional enforcement, which I'm not arguing against, but I think there's ample deterrent incentives in the marketplace already for the high-frequency traders to do a good job of programming their algorithms and testing and working with the exchange and the conformance with the exchange, making sure it's behaving as they would expect it would.

COMMISSIONER O'MALIA: Commissioner Chilton, do you have anything before we move to a break?

COMMISSIONER CHILTON: No, thank you.

COMMISSIONER O'MALIA: Anybody? Last comments? Thoughts? We'll take a 15-minute break and come back here and talk about some SEFs for a while.

(Break.)

COMMISSIONER O'MALIA: We are now going to move to the SEF, and we have two CFTC individuals. We have a switch. Mauricio Melara is on the SEF rule-making team and has the challenge of interpreting the statutory direction and developing a regulatory framework for swap execution facilities. He will highlight the issues surrounding the enhanced transparency and price discovery associated with SEFs.

We also have John Rogers, who is our Chief Information Officer with the CFTC who will outline the technological challenges facing the Commission and keeping pace with the data collection and market-surveillance responsibilities to aggregate data from both futures and swaps markets, and to do so in near or real-time capability, which currently is beyond our reach.

I've also asked two Committee members seating the panel here. Tom Secunda, Chief Technology Officer with Bloomberg, will provide his perspective on the SEF definition and on technology -- as a technology and execution provider in an OTC market, and how Bloomberg facilities will facilitate pre-trade transparency.

And Michael Cosgrove is Managing Director-Head of Commodities & Energy Brokerage, North America, GFI Group. Also a tech member, and will provide his perspectives and that of the voice-broker community on the SEF execution. Mauricio, let's start with you. Thanks.

MR. MELARA: Thank you, Commissioner, and thank you for the Chairman and the other commissioners for allowing me to present on swap execution facilities. By the way, this is Tab 7 of the meeting booklet, if anyone wants to follow along to the power point.

It would be hard to do better than Bob Pease on the process piece and explanation of the implementation of the Dodd-Frank Act, so I won't try to do that. He did a superb job. Everything applicable to the efforts that the staff is undertaking to write rules to implement our section, Section 733 of the Dodd-Frank Act, applies here as well.

One of the efforts that we have undertaken has been to take as many public meetings and to participate in as many events such as this to gather information and to be able to recommend rules that are faithful to the statute, and at the same time, take different perspectives and viewpoints of the market at large.

So again, one note that I want to make is that the views that I present here are my own and do not reflect those of the Commission or any individual commissioner.

Swap execution facilities under the

Dodd-Frank Act are addressed in a couple of places. One is Section 721, the definition section of Title 7, and Section 733 of the Act. Section 721-850 lays out the definition, and Section 733 outlines the registration requirement and the core principles applicable to swap execution facilities.

The purpose and objectives of this particular rule making are to, one, establish the requirements for the new type of regulated entity. That's the SEF; two, to implement the 15 core principles applicable under the statute under Section 733; three, to promote the goals under Section 733(e), one being the promotion of trading of Swaps and swap execution facilities, and two, to promote pre-trade price transparency in the swaps market.

Finally, although not expressed in the statute -- in Section 733, rather, one of the purposes of the rule making and one of our objectives is to coordinate with the SEC to harmonize rules applicable to swap execution facilities and security by swap execution facilities.

The rule-making elements that the rule-making team is undertaking include establishing a working interpretation of the statutory definition for swap execution facilities. In your materials, we have the applicable and statutory relevant sections for swap execution facilities, and that's at the very top of the materials included there. I believe that would be -- they've been included elsewhere in the Table of Contents.

I might as well read the definition, which is very familiar to quite a few of the participants here. The swap execution facility definition reads as follows: "The term 'swap execution facility' means a trading system or platform in which multiple participants have the ability to execute or trade swaps by accepting bids and offers made by multiple participants in the facility or system through any means of interstate commerce, including any trading facility that, (A) facilitates the execution of swaps between persons, and (B) is not a designated contract market."

The second element of the rule making is to adopt the swap execution facility registration procedures, in which applicants must submit an application and go through an approval process, and through which we have determined so far at the staff level that such process should be similar to that applicable to designated contract markets currently.

The third aspect of the rule making is to develop regulations and guidance related to the core principles, which are fairly comprehensive. They address general subject matters such as compliance with rules, the timely publication of trading information, recordkeeping and reporting requirements, and system safeguards, provisions, as well as safeguarding against manipulation, managing conflicts of interest and addressing responsibilities and procedures during a market event. In other words, emergency authority actions.

Finally, some of the issues that staff have been reviewing include the interpretation of the statutory definition of a SEF. In particular, what the references to trading system or platform mean. Also, what the multiple participant to multiple participant requirement is meant to include and address. And also, how block trades interact in that within the definition. Finally, any means of interstate commerce, what the language in the definition is supposed to address.

Another issue that the staff has been looking at is how swaps are fundable and tradable on multiple swap execution facilities and designated contract markets. It's expected that no single swap execution facility will have the information on positions or trades for the entire swaps markets, and therefore, we have resulting cross-market issues, which include the monitoring of market manipulation and trading abuses, the enforcement of position limits, and the procedures and responsibilities that market participants and regulators would have when facing emergency actions.

With that overview, I'm happy to take any questions that the panel might have, and I'm also ready to ask a few questions on behalf of the staff.

COMMISSIONER O'MALIA: Does anybody have any questions for Mauricio? If not, we'll go to John Rogers, who can highlight our technological challenges facing the Commission enforcing and surveilling us.

MR. ROGERS: Thank you very much. Thank you for the opportunity to speak today. I believe the term that was used when I was approached for this was what is it that keeps you up at night, so this is some of the things that keep me up at night.

I wanted to also add you've heard from a lawyer, you've heard from an economist. Now you're hearing from an IT guy. As is customary, I'd like to note that all statements and opinions are my own and do not necessarily represent the views of any commissioner or the Commission. I'm pleased to talk about what we're doing as we contemplate how the Dodd-Frank Act will impact our IT operations and the mission-related activities they support.

As I go into the specifics of the technology considerations of Dodd-Frank, I would also describe what we do in OITS related to futures data, since I believe it has a strong relationship to how we would implement Dodd-Frank requirements of the Commission. My primary focus for the discussion is on what data the Commission may require, when we may need it, how we would get it, how we would use it, and in what form it should be delivered.

One significant area of focus within OITS is the collection, processing and utilization of data at the Commission. In the futures space, we collect millions of records daily for use by various automated systems supporting trade practice compliance, large trader reporting, market surveillance, risk surveillance, economic analysis and enforcement investigations.

Over time, we have automated the collection of this information so that economists, investigators and attorneys have information available to them when they arrive at work in the morning. The ability to provide this level of automation was very helpful in the events such as May 6, where we were able to load and make available the data for that particular time period of interest within hours.

Within the context of data collection and management, I will discuss six areas: Data standardization, data aggregation and the need for unique identifiers, routine data collection versus ad hoc data access, data calculation responsibilities, data sharing with other regulators, and data utilization by the Commission.

As is common with organizations processing large volumes of data from various sources, we have focused on data standardization. Our ability to utilize data standards such as

FIX ML for the capture of trade data has greatly enabled our ability to load data more quickly for use on the May 6 analysis and in many other situations.

Our work toward applying XML-based standards for other types of data continues in the futures market as we look to collect order data and large-trader data in a standard XML-based format. As a continuation of our data standardization core principal, we would expect to develop data standards to receive and process swaps data.

The development of the data standard and its application has been accomplished with considerable feedback from industry participants providing the data. While the rule-making process necessarily formalizes communications, in OITS, we would expect to continue this approach wherever possible.

One of the challenges we face related to data collection is first defining the data that we routinely need at the Commission in order to support our mission functions. It's my expectation that we will continue to have such data delivered in a standardized form and in a consistent manner to the Commission within a particular time frame for automatic loading into systems so that it would be readily available to Commission staff. The goal would be that the Commission staff would have a familiar set of technologies at the Commission with timely data available for their analysis. I did not specifically mention a time window, because that would be something that would be determined in the process.

Just as we know the data requirements are different for trade practice surveillance, large-trader reporting and other functions, we expect that data requirements will be different for swaps. In addition, we are considering how data requirements may differ based on asset classes associated with swaps. These requirements must all be defined in detail to enable automated systems to be built on top of the data collected.

As part of the data-collection effort related to swaps, we are considering the potential sources of data collection in futures. We collect data from FCMs, DCOs and DCMs, to name a few. In swaps, we are discussing how we might collect data from swaps data repositories, swaps execution facilities and other entities.

As part of this activity, we must consider the method of delivery from both a volume perspective and from a security perspective. We must also consider the technological capability of reporting entities from end users to swaps dealers.

We are also considering what we must collect from one entity such as a SEF as an interim step while fully-functioning SDRs are coming online. We expect that both industry and regulators will need to phase-in technology just as the regulatory approach is being phased in.

Another key area of data collection will be recognizing the distinction of data collected routinely versus data collected on an ad hoc basis. It is the goal of OITS to define how data fits into those two categories. Expecting that ad hoc data may live away from CFTC and an SDR, for example, and not be part of a regular delivery process to the Commission. Instead, the Commission would have access to that data through a direct link to the SDR. The Commission would also have the ability to download ad hoc data for further analysis, defining the sets of data that are routinely provided for our common functions as well as understanding what data needs to be collected as needed is the important future activity.

Given that we expected to find the set of uniquely required data, we are not concerned about the volumes of data that we would collect. Even without such a definition, the data in terms of the number of rows collected is not expected to be overly burdensome when compared to the futures data volumes. We expect the number of columns required to vary by asset classes for swaps, but we would expect only to be collecting a subset of data on a routine basis.

One data collection expectation that is being considered is the general principle that calculations were ever possible would be performed by the external entities and reported with other data being reported to the Commission. As an example, net present value calculations would be performed at the SEF and/or SDR level prior to reporting to CFTC. In addition to the values used to calculate the net present value would be available so the commission staff can determine if net present value appears reasonably stated.

One area of considerable discussion right now is the notion of how data might be aggregated to cross SDRs and SEFs. Since trading activities and like products could occur across multiple SEFs and reported to different swaps data repositories, we must devise a method of aggregation that allows the Commission to perform information analysis using data received from multiple reporting entities. An example of that would be risk surveillance where the Commission would be interested in looking at all positions in the account to perform stress testing and to assess risk associated with firms' positions.

The Commission will need an aggregated view into this data to perform the required risk surveillance function. A key component of being able to conduct aggregation across SDRs and SEFs that is currently discussed is the application of a unique identifier for market participants, sometimes called a counterparty ID.

Many if not all of the software systems this I have seen in the swaps markets currently utilize a system specific unique identifier. The challenges there is that there is not one unique identifier shared among the systems. Aggregation becomes considerably more difficult and manually intensive without a unique identifier.

A unique participant identifier is an essential ingredient to systemic oversight because of its ability to enable aggregation of data. It must be noted that the implementation of such an identifier would require major changes to existing industry systems.

In addition to changing existing systems, determining how a unique identifier would be established and managed is another large task requiring a technology implementation by some organization or organizations. I would expect the issuance of an ID would be part of a registration function performed by one or more organizations, with the main objective being to ensure uniqueness and avoid duplication. That is, two participants with one ID or one participant with multiple IDs. I would also expect that this ID would have the potential to be shared by all market participants and potentially by other regulators.

The last key component of the unique identifier challenge is determining the relationship between swaps data and futures data. It will be necessary to establish a data linkage between the swaps and futures data sets so that the Commission can aggregate position limits across both markets, conduct risk analyses and stress tests and perform economic analysis.

One implication of this scenario is that a unique participant identifier would also require use by participants in the futures market. Without such a requirement associating swaps participants with futures participants would require laborious manual effort.

There are expected to be other forms of aggregation requirements that will be essential for information analysis such as cross products. It's expected that a unique identifier for products will also be necessary. This concept is important to the mission functions of the Commission and will again require systems modifications so that visibility into trading in the same product across SEFs or housed in different SDRs can be achieved.

Once data is defined, processed and aggregated, the next steps is to determine how we will use it. I would expect that OITS will need to build technology capabilities to support the Dodd-Frank rule making. At the beginning of this process, I would expect that we would modify

CFTC.gov to develop new capabilities to receive SEF and SDR applications. On the other end of the process, I expect that we would be modifying CFCT.gov to meet public data transparency requirements.

Between those two end points, I envision that we'll be revising existing systems and building new ones to support the core mission functions; namely, trade practice surveillance, large trader reporting, market surveillance, risk surveillance, economic analysis and enforcement investigations.

The process of gathering high-level requirements for technology is beginning to take shape as the rule-making process continues, but considerable work remains on detailed requirements definition, business process design, solution design and technology implementation. The pace of the technology change will be based on the timing requirements of the specific rules.

Thank you very much for the opportunity to speak, and I'd be happy to answer any questions.

COMMISSIONER O'MALIA: Well, I'm relieved to hear this isn't going to be hard. Let's go back to the SEF and the practitioners of this market. So Tom, if you'd --

MR. SECUNDA: Sure. I'd like to take just a quick step back and talk about Dodd-Frank a little bit. When you look at the problems that were trying to be solved, certainly the problems of central querying to take care of counterparty risk was very important, and trade reporting to take care of transparency types of risk. And when you go and you look at the role of SEF, the SEF's job is about liquidity and facilitating both the querying and the reporting mechanism.

I'd like to talk to you a little bit about querying and transparency and how the SEF and some examples of how Bloomberg has done this in other markets and what kind of technology is involved, then move a little bit into the different kinds of mechanisms that we use to do trading and talk about the pros and cons, and again, the technical implications of those.

To start with, in terms of central querying, there are many different querying organizations out there that are now willing and able to do swaps. Given some of the standards that exist, or even given the existence of many of these exchanges for a long time, many firms are ready-wired up to them, Bloomberg included, but one of the things that's nice about what we're talking about, in almost all of these areas, we're not a sole player, that there are many players in these areas. So there's many people that hook up to CME and to ICE and to some of the other players out there.

The one thing we'd like to caution about, though, is that there's often third-party people that sit in between and are exclusive to different querying corps. Our view is that the querying corp, the reporting organizations and the SEFs and the distribution organizations like Bloomberg should be all independent and competitive amongst themselves, and no one querying guy should be able to force a business to a SEF and then to a market data vendor, or a market data vendor upstream the other way. That openness and not having a middle man that monetizes their position in the middle is important.

The same thing is true with transparency. It's very clear that it is quite possible to report trades when they happen. There's a question of do you want to report block trades. In other words, we do a trade and we report it at trade time, not at allocation time. It depends whether you're looking for market transparency; in other words, knowing what's trading, or are they looking at querying and counterparty risk. There's also nothing to be said that both are independent actions and both can't be done. I think pretty much everybody in the business now has the ability -- should have the ability to redistribute at trade time on a block trade.

Same thing I -- since I'm sitting next

to Steven here, one of the very successful regulations, legislations that have happened in the OTC market for corporate bonds and now agencies and municipal bonds was trace reporting, where trades had to be reported. I think it used to be 15 minutes -- still 15 minutes? And that those trades would have to be reported with size and other kinds of information. And that information would be available back to the market at a fee. I think that it's available the next day to anybody without a fee or at a reduced fee.

That's a model that we can support. We again want to be very careful that the person that has, in a sense, the control of that data, that's in charge of that data, is more of a utility type of company and doesn't try to be in that unique position to monetize the control of information that they've been granted by the regulatory body. So that's very, very important to us.

But where we stand at Bloomberg, we have a whole host of different ways that in the OTC, treasury market, corporate bond market, agency market, mortgage-backed market, we report. I'd like to take you through a couple of these different mechanisms we use and talk about how they might apply to being a SEF or not being a SEF or might apply to block trades that trade differently maybe than the smaller trades that are reported, that are done through the SEF.

We have a wide range of different ways. I'll start with the way that's used, which is basically automating voice trades, and end up sort of with a limit order book concept.

In many of the markets, trades are done over the phone because advice is given in consultation. It's not that I'm going to buy a specific security. It's that I have a need and I want to understand what you can do to help me with that need. And it's usually not one phone call, it's multiple phone calls, but at the end of the process, a ticket is written.

And what we've done at Bloomberg -- and again, we are not unique. There are two or three other players that do pretty much what we do. We ask the salesperson that made that sale to write a ticket into our system or into their own system that feeds into our system. That ticket is then sent to the buy-side participant, who acknowledges it.

I'll give you an idea. In some of the credit products, not only will we do that, but we'll flash and tell the recipient if there's something strange, a funny settlement date, a funny size, so that not only are you getting a digital copy of what used to be a voice copy, but you're getting a warning that there was something different than what was normal here.

On top of that, it's being done between the salesperson and the portfolio manager or trader and the trader, who are the professionals who know the trade, versus often these things are done in the back office between middle-office people who no longer remember the trade.

And also, the timeliness of the middle office after allocation confirm could be a day, half a day. So by moving it and making it a front-office product and not a back-office product, we're able to get disclosure of information, but also much cleaner information. Now again, that doesn't get you querying, because you then have to allocate the trade, but it does get you trade reporting.

The next step up is something which is very commonly called request for quotes, where you go out and you say look, I want to buy 50 million long bonds, tell me what you can do for me, and you go out to a certain number of guys, five, three, eight, really selectable by the market, an you get responses and you pick the best offering that you can get, the best bid that you can get. So that is one mechanism, and I'll talk about the pros and cons.

We also sort of have another mechanism that we use which we -- Bloomberg jargon, I apologize. Any customers out here? We have a function called all Q, where independent dealers will go out and make markets in a security, and an investor will go out and say, show me who's making markets on this particular bond. And you'll see a list with real prices. I think we need a 98 percent acceptance rate or something like that, and then you can hit the bid. So it's multi to multi. It's many people showing to many people. When it comes time to pick, it's only me talking to the guy that gave me the best bid or offer.

Now, we actually like this mechanism, and this mechanism has been very well received by both the investment community and the selling community. Because it stops some of the problems like front running or the winner's curse. I mean, think about it. If I go out and have to tell five people that I'm doing a big trade, the guy who wins it now has to go and do the other side of that trade in a marketplace that knows that he did it. Even worse than that, if I'm not one of the guys that did it, I'm exposed because I have a lack of information.

So the request-to-quote system, which works well and we use it, in very liquid markets works really poorly when the amount of liquidity you're doing can move the market. Counterpose that with my all Q mechanism, I'm looking at the best players, so I get to pick the guy who has the best price, but I only tell that person to trade. And I don't tell them to trade until I have to do that trade.

Of course, the final step is sort of a limited-order book where you can go and manage market depth and work like many of the exchanges were. Before I get -- and actually, as part of talking to that, not before I talk to that, is it's kind of an interesting thing that's going on here. Typically, whether it's the SEC or the CFTC, typically, the regulations are about the exchanges or about the participants in the exchanges, the market makers. And sometimes, yes, there's high-frequency traders and hedge funds that play a middle role between investment company and a market maker. But most investment companies are only regulated to the extent that the people they're buying and selling from are regulated.

So really, for the first time, we're

talking about regulating the buy side, which is really kind of a funny thing. We're talking about investors now being told on how they're going to trade with the dealers. And that's why it's important to look at these things. If this was between market makers and market makers, that would be fine, but we've tried a couple of times and we've seen tried many times in the past where you intermingle the buy side and the sell side in a market maker type facility, and the problem is, if I'm an investor, what I want to do is get my block done. I'm not really prepared to work against high-frequency traders or big broker dealers and try to get the best 32nd. What I don't want to do is I don't want to move the market. I want to get in there where the market is, because that's where my trade works. So in many markets and most of the regulated markets, I would do that trade with a market maker or participant and they would then take the market-making risk of trying to unwind that trade. So when we start looking at how we're going to move the SEFs, if we're moving the SEFs into the buy side, then we have to be conscious not of the way we would normally do a sell side to sell side transaction, but we have to start looking at how the buy side interacts. And it's a very different kind of system. In the end, I think that it's fair to say that we're regulating, we're trying to protect the investment community, and to the extent we introduce regulations that make investors start having to compete with market makers or compete on exchanges, we're not doing them a service. As a matter of fact, that is the service they're paying the sell side for.

So when we look at the full spectrum of things, we sort of love the limit order book or love a broker, inter-broker system for brokers to talk to brokers, but when you start extending that to the buy side, that's when there's a different kind of SEF we think necessary so that they can get their transactions done without having to compete in this market-maker type space.

So that's basically it for us. When it

comes to technology, I think there are many, many players now, and again, the thing that I would caution the most about is to make sure that whether it's Bloomberg being a SEF or CME being a clearing house, that we're all out to compete in all these different spaces, unimpeded by the person in the middle who has control of some part of that operation.

And it was interesting in the technology discussion that you're thinking about unique customer IDs. We've talked in the past about even having unique product IDs. And again, we think that it's very, very important that these things are available and available to all SEFs and all querying corps and all reporting mechanisms at more of a price point that is for a service utility type organization and not a purely for profit kind of thing, because once you're the sole provider, the price you can charge becomes anything you want it to be. Just as a Bloomberg offer, we've published all of our identifiers. We don't complete the entire world, but for the world that we cover to the web is an open source, and we certainly offer that to the extent that contractually we can do it and to the extent that the Commission wants it, we would offer those kind of identifiers as open source and loose, and to the extent that some other organization wanted to control them, we'd be happy for that. We think that it's important for the marketplace to have common nomenclature. We haven't anticipated, although you're absolutely right. I didn't come here anticipating a unique ID system. There are many players in that space as well. We don't have to be one of them. Thank you.

CHAIRMAN GENSLER: I just wanted, Tom, to clarify, because we were having -- are you saying that you think the buy side should have access to SEFs? That's how I read the statute, because it says it has to have impartial access. There's both open access for clearing houses, but then the SEFs impartial access. You're saying they should and then we have to be conscious that there's ramifications or you're saying they shouldn't have access?

MR. SECUNDA: No, I'm not actually saying they should, but I'm saying the kind of SEF might be different. That the concept of limit order book, where algorithms and people are competing is not something that a buy-side guy, a pure-investor guy would be interested in, because he'd then have to take -- when you go and you buy a mutual fund, muni-mutual funds, or in this case, a fixed-income mutual fund that's using swaps, you really don't want them to be taking market risks or spending their money in trading execution. You want them to be making their money by position taking.

CHAIRMAN GENSLER: Right, but I gather you are saying -- I mean, I can't speak for my fellow commissioners. My read of the statute is we're supposed to give impartial access. That says it in the statute, so whether you're a buy side, you're an end user, you're a dealer, that you have access to these SEFs and whatever pre-trade -- wherever we come out on request for quote, wherever we come out on all these really important issues you raised, I thought that we were pretty clear we have to give impartial access to whomever wants to come in and use these things, and it sounds like you're saying the same thing.

MR. SECUNDA: Yeah, I'm not -- it's very hard to define what an investor is and what a market maker is, and clearly, people will want to play where they want to play. Certainly we're not in a position to object or even comment on that. I guess we're in a position after looking at how people use our technology in talking to our customers to hope that there is a way that there will be an additional mechanism for them to play in the marketplace as they'd like to play in the marketplace.

CHAIRMAN GENSLER: If I could say one more thing. Given that the statute says that we can -- and I think it might have even said shall, but at least we can have block-trading rules, and I know staff are working on that. A block trading in essence takes somebody out of pre-trade transparency, so some of what you're saying might be addressed through the block trading.

You know, if somebody comes in and they're that big mutual fund and wants to billion-dollar trade, that might be out because it's a block.

MR. SECUNDA: That's absolutely true, and we would propose -- you know, the beauty about block trading over a system like we talked about called VCON, but again, is available through many other sources than Bloomberg, is that you can still get price transparency to the extent that's it's right to ask for that through the VCON type system for a block.

But also just, again, whether I have -- you're absolutely right that on big trades, it has a much bigger effect -- we talked about this -- even in electronically active markets has a much bigger effect. But even when it comes time to go and buy reasonably-sized positions, it would be nice for me as a buy-side guy saying I don't want to have to work the exchange to make that happen.

I want to sell that position to somebody or buy that position from somebody and let them work the exchange, and having that kind of a mechanism that gives us transparency, gives us multi to multi, gives us what the statute says we have to have without me having to go and build my own algorithmic trading and high-frequency trading operation just to get my trades done.

CHAIRMAN GENSLER: Are you talking about something that's below the block sides then?

MR. SECUNDA: Yes, I am. I'm basically saying that in many cases, clearly the bigger the size, the more important it is, but even with a small size, in a very liquid market matters less, but as the markets get less and less liquid, you have to work a trade of a size that you might consider below the block. Now, maybe you can adjust block sizes to make that happen, but again, I think that having the capability of an investment firm to get a trade done without having to work the market aggressively would be a powerful thing, and really does exist in the equity market and your futures market as they exist today. So the SEF idea, to an extent, is moving beyond the kind of regulation that already exists in your futures market. And to that extent, you should look at its effect on the investment community, which in the end is one of the major reasons why we regulate is to protect that investment.

COMMISSIONER O'MALIA: Thank you very much. Michael?

MR. COSGROVE: Thanks for giving me the opportunity to contribute to this discussion this afternoon. I'd like to start by putting what I'm about to say into a bit of a context. I know that my company and companies like mine have been referred to as voice brokers repeatedly, and I want to first of all sort of describe the industry group that we formed to advocate on behalf of our businesses and the markets.

My company, GFI, along with BGC Partners, Icap, Tradition and Tullett Prebon formed the Wholesale Market Brokers' Association

Americas, and our intention was to essentially advocate not only for what we do, but also for the health and vitality of our markets.

In fact, while we do collectively employ thousands of individuals who are voice brokers, we also operate some of the largest electronic markets that you'll find in our spaces. GFI operates EnergyMatch, CreditMatch and ForexMatch. Icap operates EVS and Broker Tech, and of course ICE purchased CreditEx not long ago and employs voice brokers along with operating electronic markets.

So I'm not here simply to plead for full employment for our employees and those of our competitors, but rather to make the distinction that we apply -- we use voice brokers in markets where we believe that that's the right approach.

We employ technology as aggressively as we can and we invest in that, because we find that it makes our voice brokers more powerful and more productive, and we also find that from a simple revenue and profit standpoint, all you have to do is look at recent financial statements that the CME and ICE publish and you see 67 percent profit margins. Those are enviable, and anyone in their right mind who would be capable of deploying a model to produce that kind of profit would do so. And I'm not revealing any secret information. I just read the 10-Qs.

CHAIRMAN GENSLER: What's GFI's profit margin?

MR. COSGROVE: Less. That's the point where I say don't look behind the curtain. It is less.

Now, having sort of started with that, I had a list of items that I was going to cover very quickly here, and ultimately, what I'm going to suggest is that I believe that our current business models, GFI's and our competitors, do actually meet the definition of SEFs as near as we can determine them from the Dodd-Frank legislation. But I wanted to start by just asking a few questions, because I was under the impression that it would be useful to help sort of stimulate this discussion.

I think the first objective that we have must be to do no harm. And then I think the second is do we have to ask for whom we seek to improve the markets: The largest number of participants? For hedgers? For small investors?

I think the third thing we want to ask is should we have a single standard for all markets, and if not, how do we stratify markets for the purpose of applying regulation? I would suggest that from our experience, we operate exclusively in professional markets. We don't deal with retail customers. Our customers are all eligible commercial participants. I think that they require less protection than retail customers.

Next, do we stratify by market type? For example, do we require pre-trade price transparency in the Henry Hub Natural Gas swap contracts under the assumption they're sufficiently active, liquid and deep to produce such transparency without dying under the burden?

Do we satisfy ourselves with near real-time post-trade price transparency in markets that perhaps are insufficiently robust to support pre-trade price transparency?

Actually, a lot of this has already been covered, so I'm going to skip right to what I believe to be my understanding of the Dodd-Frank legislation and how I believe that in the current market, we do actually satisfy these broad prescriptions.

First, Dodd-Frank will subject US swaps markets to comprehensive regulation by the CFTC and SEC, including registration and regulation of swaps dealers, intermediaries, clearers and so forth. My company and our significant competitors will certainly be regulated as SEFs. And when I hear that there's going to be 40 SEFs, I would be such a size buyer for that. I think there will be 100 SEF applications.

CHAIRMAN GENSLER: Michael, will you share that with congress? We need more funding.

MR. COSGROVE: You know, I'd be happy to

do that. There are 50 companies attempting to broker OTC natural gas swaps right now. 50 companies. And they all want to stay in business, and I think unless someone can offer them, sort of lend them the SEF compliance, they're all going to apply. So I think the OTC natural gas options brokers, there's 50 of them, so you're going to get 50 from those guys.

CHAIRMAN GENSLER: How many people are a buyer at 40?

MR. COSGROVE: I think I'd be a buyer at 100.

CHAIRMAN GENSLER: Does anybody think that we're high with that 30 to 40? Oh, wow. So that's low.

MR. COSGROVE: I really think you're going to get a lot more than you think.

COMMISSIONER O'MALIA: Mr. Chairman, I think it depends on how flexible we are in letting these SEFs function and what they look like.

COMMISSIONER DUNN: I think at some point in time, we're going to have to consider the capacity of staff to process applications. We may have to limit it to two.

MR. COSGROVE: That might be okay. Second, there will be comprehensive position and transaction regulatory reporting. We currently employ robust -- and all our competitors, too. All of our significant competitors currently employ robust, state-of-the-art technology to capture process, reconcile and bill transactions. We will be able to report transactions timely to trade repositories as required, and in our fixed-income business, we already report to trace, and it's not at all burdensome.

So I think that issue of post-trade transparency is a piece of cake. We just need to know who to plug into and the confirmations will flow automatically.

Third, there will be mandatory clearing of clearable swap instruments. I can say that in the North American natural gas and electrical power markets, probably in excess of 90 percent of the business that we do in those markets are already cleared, and that required no directive or regulation. That simply was a natural development as a result of clearing being tremendously beneficial to the market.

In fact, we could spend hours talking about how valuable and enriching clearing has been to these markets. So I'd be surprised if in the business that we do, which is the wholesale business, there would be much of a reluctance to clear transactions. It's generally been very beneficial, and I think the resistance would only be quite limited and largely indefensible.

Fourth, swap transactions that are subject to mandatory clearing will be required to be intermediated by a swap execution facility. We're going to make an application. We think we qualify for that. And fifth, there will be greatly enhanced public pricing transparency in both pre- and post-trade time cycle.

Here I'd like to echo Tom's comments. There are some markets where pre-trade price transparency, in my opinion, would actually kill the market. It is in our best interest to have pre-trade price transparency. I think it serves the general public interest to have that, but there are some markets that require such a large degree of workup and finesse, in markets where you really don't have a firm bid and firm offer until literally the last second. You're in a collaborative discussion with a customer, and as Tom said, the customer doesn't know that he needs to buy this or that. The customer has a need.

So in the course of collaborating with a customer, you could come to a point in the conversation where you may have had a dozen conversations with them, either over the phone or instant messenger, and the customer finally says, "Okay, let's buy this. Get them on the line." It's difficult prior to that as you're going through the discussion with them, the collaboration with them, to identify a point in time where you could say okay, look, if you're telling me you might be a buyer at 10, I'm going to have to post that for everyone to see.

So I think that we need to, in the process of defining where and how we apply pre-trade price transparency, to take into account that it should be implemented wherever possible. Where it would harm the markets, I think there has to be some recognition of that so that we first, essentially, do no harm to those markets. So that sort of summarizes everything that I have to say.

COMMISSIONER O'MALIA: Thank you very much. I'd like to get a sense from participants, committee members here, what they want to see in a SEF. Buy side, sell side, competitor. What are the attributes mentioned by either of these presentations do you want to see? What do you think the most essential elements? Is it pre-trade transparency? Is it execution? What is it? What do we need to be thinking about here?

MR. HARRIS: I certainly think the goal of transparency is one that the Commission should be trying to achieve, but I think transparency is intended to buy side, in large part. Those who provide them with more information. So I think it's very important that the Commission actually talk to the buy side and listen to them concerning which systems and facilities are appropriate and are desired, and what kind of information they actually need, what kind of information gives them the transparency to provide for better execution of their transactions.

I also wanted to pick up on one other thing that Mike said, and that is that I think it's pretty clear that different systems and facilities have evolved over time, and I think that there may be different SEFs that are appropriate for certain classes than others, so I think the Commission needs to be very flexible in its definition of SEFs, not just because the technology is evolving, but also because there may be differences in the classes and what's appropriate.

MR. HEHMEYER: I'm a futures guy, so take this for what it's worth, Michael, but at the Board of Trade in the '70s, we were told exactly the same thing by the primary dealers with regard to treasuries: Do no harm. Don't hurt the market. It just work great, and why do we need price discovery to really be transparent?

And so my own feeling is that -- and I'm not in that market, so I definitely am not somebody that's real conversant in the over-the-counter nat gas markets, but the futures guys tend to think if you give the market transparency, in the price discovery transparency, it will shrink the spreads of the markets and give the public more access to information. So that's where my background comes from is.

MR. COSGROVE: And I'm in favor of that also, because as soon as we can bring a market to the point where there are firm, tradable bids and offers there, then we can access a far broader range of customers. I mean, there's I don't know how many companies in Chicago that will trade with you if you can let them plug into your market as opposed to pick up the telephone and talk to someone about that market. So it's from a very selfish perspective, as quickly as we can migrate a market to a screen, the better off we'll be.

Having said that, there are some markets that are either nascent or they are just simply very, very illiquid, and if you require the participants in those markets to post a firm bid and a firm offer -- and really, I'm not talking about -- I'm talking about markets that I think many people in the room probably -- well, many people in the room may be familiar with, but many people outside of the room wouldn't be familiar with. They may be specific natural gas basis markets. They may be specific nodal power markets. In those areas, if we were to require customers, principal traders to post a bid and an offer, my fear is that instead of having transactions, we'd have very wide bid offers and far fewer transactions. We wouldn't really have -- in fact, we would diminish our ability to take that market from its current condition and continue to bring it along to the point where it could be a vibrant market with full pre-trade price transparency.

MR. HEHMEYER: Is some of that where you draw the lines with regard to exotic products being exempt and vanilla products being posted on SEFs that have pre-trade transparency? And I understand completely and respect that that gets complicated quickly.

MR. COSGROVE: Yeah, I think so. I didn't come here today with a list of markets to say, well, this one should be. You know, you should allow some degree of -- be satisfied with a trace type reporting solution for this market, but require pre-trade price transparency in these five markets. But I think there are markets that really do sit rather clearly on either side of a line, and then there are going to be a number that are sort of in the middle.

But I do think that the definition of a SEF needs to accommodate those markets where simply forcing full pre-trade price transparency would I think have a harmful effect on the market.

MR. HEHMEYER: I respect that completely. We have futures markets in some of these products, and there are differences in the products, and I completely respect that. But like I said, my gut is that if you bring transparency to pre-trade price discovery, it will make the market more efficient.

CHAIRMAN GENSLER: My gut's been with Chris for a long time, and it's not -- because I just think it. But my question for you, Michael, is recognizing this is only on non blocks, because if it's a block trade, there's not a pre-trade. And recognize this as only on something that's clearable, because it's got to be on a clearing house, and as congress has said, accepted for trading, and then we have to define what that means.

So it's got to be accepted for trading. It's got to be clearable, meaning it's not some exotic bilateral, and it's the non blocks. You're still worried about some of the pre-trade transparency. That might separate us, but I think that's what you're saying, but I have a question. So you do something by voice and there's a resting bid or offer. It's not an affirmative obligation, but there's a resting bid or offer. Are you all right saying that as a SEF, you have to let your participant or member know about that? And I mean, if that's better than what you're doing on the voice, to let them hit that bid or lift the offer?

MR. COSGROVE: Yes, absolutely, and I'm glad you asked that question. Even in the voice markets, the voice markets are very large mini to mini markets. And just to give an example, GFI owns a company, Houston-based company, Amerex, which has been in business for 35 years now. And Amerex has 1,000 direct voice lines to customers, and probably that many instant messaging connections to customers also. So when a broker is negotiating a transaction, all the broker's colleagues are also showing that transaction to their customers, and at any point in time, a customer can step in and better the bid and better the offer. And when you have 1,000 open lines all the time, you can't actually, even in a voice market, communicate a tremendous amount of information and inform quite a few people. And because you're not simply communicating a number on a screen, which I would prefer to do, frankly, you can transmit a lot of qualitative information also, which I think is important again for massive markets or markets that are not as actively traded.

CHAIRMAN GENSLER: So I hear that you're comfortable having an affirmative obligation, maybe, to show the resting orders, and even to let the resting orders participate if they're better. It's just that where you're drawing a line -- and I might draw the same line that you draw, but where you draw a line is forcing market participants actually to make a bid or make an offer.

MR. COSGROVE: Right. That's right. I think if you -- I know from my even experience, I came from the crude oil markets many years ago. Especially in lesser-developed markets, markets that don't trade as frequently, there's a lot of hand holding and lot of collaboration and a lot of development that takes place, and it's difficult sometimes to determine at what point someone has really given an indication that qualifies as something that should be broadcast, essentially. And often, there's a kind of a -- often it comes down to I'll do it if he'll do it.

In the workup prior to that, it's very difficult to -- I think in the workup prior to that, if we had to tell the parties, well, no, you have to give me a firm bid and I have to post that and everyone needs to see that, you have to give me a firm offer and everyone has to post that, in those markets, it would have a harmful effect. I think, in fact, it would -- I'm sure that it would invite a tremendous amount of gaming. I just think that it would be unhelpful in some markets.

Having said that, I want to reaffirm that my company and companies like ours are very big believers in technology. We invest in it. We like it. We think full pre-trade price transparency is very, very important and valuable, but a one-size-fits-all I fear will do harm to markets that we seek to improve.

COMMISSIONER DUNN: Listening to Tom and Mike, it seems like pre-trade, there's a lot of advisory activities taking place. How do you draw the line between what we see as a CTA versus what's going to be a SEF?

CHAIRMAN GENSLER: CTA is commodity trading advisor, and in the statute, the word "swap" was added to it. I see one of Chairman Lincoln's staff here who probably helped do that. So that's why, what he's talking about.

MR. COSGROVE: I've actually taken the Series 3 Exam three times in the last 25 years, so I know -- and many, many years ago I was involved with the CTA. I think a commodity trading advisor is -- correct me if I'm wrong. Doesn't a commodity trading advisor have the ability to trade the account or do you just need that for advice only? I mean, does a CTA have the ability to trade the account?

MR. HARRIS: Yes.

MR. COSGROVE: Yeah. So I think clearly in our business as it currently stands, we don't have the ability --

CHAIRMAN GENSLER: It doesn't have to have that.

MR. COSGROVE: So I'm going to have to ask if you could repeat the question, because I don't know exactly how to respond.

COMMISSIONER DUNN: I was just trying to, in my mind, draw the line between the distinction of being the advisor, and then at some point you become the SEF where you're actually doing the trade.

MR. COSGROVE: I see. That's a good question and one that I came completely unprepared for.

COMMISSIONER DUNN: Tom?

MR. SECUNDA: If I understand the question right, I think somebody giving advice is totally separate from the SEF. The SEF is closer to where the transaction happens and not where the advice goes to. So if I got -- I did not take the

Series 3, so I'm completely handicapped here, but the SEF has no advisory role. At the least, it's process is an information provider.

COMMISSIONER DUNN: I must have misunderstood your presentation, because I thought you said you initially get in and do advice.

MR. SECUNDA: Let me explain. It was a small part of my presentation. I was trying to distinguish an investor, how he might or she might purchase securities versus a market maker and what their role is. But often what happens in the OTC markets is there's a discussion, as Michael talked about, of I have this need to get something done and they discuss how to do it. Now, if it turns out that that thing that has to get done is a very liquid item that's SEF tradable, then yeah, they probably go back to the screen and get the trade done. If that item -- and I think that the chairman's question, I think that it breaks down between what is going to be clearable and what's not going to be clearable. Clearly, if what you discussed is an instrument that's not clearable, then it wouldn't be in the SEF and everything would proceed off SEF, if you will. If it's an item that's in the SEF, then you would have to go back into that SEF and transact it.

The question that I don't have a good answer for, that we have to think about, is what happens to an item that could be clearable, it's not too complex, it's not custom, but never trades. Because how do you get a two-sided market on an item that nobody wants to buy or sell except for me and you. If you then force me to stop and put it into the market, I might not want to buy or sell much more than what I'm willing to by or sell for you, and you're happy to buy it from somebody else, but I just did all the work to get you ready to buy it.

So that's sort of the gray area where I don't know how you play it. Clearly, if it's a custom item, we've discussed that that wouldn't be clearable and not on a SEF, and if it is a SEF tradable item, then clearly, I'd be an advisor, but you would then go to the SEF and purchase it as if you would any other way and just remember me. It's that in-between area where it's a product that is understandable and not customized, but not liquid and never liquid, and not likely to be liquid again for a long period of time.

COMMISSIONER DUNN: You'll be happy to know when staff was briefing me and I asked them if a Series 3 would be required, I was told no.

MS. BOULTWOOD: Can I go back to the question of what we as panel members would like to see in the SEF? And like the other speakers from the Committee, I think a broad definition is desired.

I think we have to contemplate markets where it's more than just a difference between vanilla and exotic products. I think we have to dive into the notion of what is a nascent market. And some markets are just simply small, and it comes down to often physical players, whether it's a natural gas or power, that may have generation or drilling wells in certain locations and are trying to move the value of that commodity from one place to another.

And there just aren't that many physical participants at any one time to begin with, and there are even fewer who are willing to transact. And I think it also helps to clarify some of the confusion that exists around sometimes what is a market maker in some of these small, nascent, illiquid markets where if you are a physical participant, just the ability to quote just both a bid and an offer is a signal to others in the market that you're trying to do a transaction more than a persistent intent to trade on both sides of a market, for example.

So I think it is important that we consider, again, the broad definition, and in the very different markets that will be regulating and the characteristics, and in addition to vanilla, exotic, just small versus large, it's also mature versus immature, and we need a system that facilitates the development and maturing of products and innovation in our market and rules that allow SEFs to facilitate that.

COMMISSIONER O'MALIA: Chuck.

MR. WHITMAN: I have a point on that, too. I think a key element of this is access, and Michael, I agree with a lot of what you say. We at Infinium, we execute a great deal of business by a voice brokerage in addition to just executing algorithmically and electronically.

One of the things that some of the exchanges will know is that our firm has played a vital role working with exchanges and developing new products, and also with different brokerages. Part of this discussion is key is how we define this, and access is a key element to it, because there's been some products we've come in to trade that ahead of time, we would have been told this is a dark market, it will never work. You come in, it won't work. And we've come in and radically changed some of these markets, brought price transparency, brought regular bids and offers and increased volumes. And once somebody like us comes in, people will jump on our backs and quote with us. All of a sudden, once we're the first market maker, if they get any kind of sense that things are going well, there will two or three more behind us, and it will bring transparency to the market.

We've had the flip side where we've had other products we've had other products we've gone and tried to do it, and it's really struggled. And we've done this both electronically and by voice brokerage.

The key element, though, I'm trying to emphasize, is access. And firms like ours in many cases have tightened markets and brought transparency just by having access to the market. And that access can come electronically. It can come voice brokerage, but I hesitate anytime we talk about defining something ahead of time is too thin or not mature enough or too exotic to trade, because I would say give me a shot at it. Give me a shot at pricing it. Give me a shot at putting correlations to it and I might be able to make it a much better market for people. Sometimes it works, sometimes it doesn't. But I feel like that's a key point that I would like you guys to consider as you look at this.

CHAIRMAN GENSLER: I think I'm hearing -- I know there's people in this room that don't agree with me on this pre-trade transparency. Probably even on my own Commission. But I haven't heard anybody disagree on this impartial access -- yet. Maybe they're staying quiet. Right? I mean, Tom said he thought yeah, you should have access if the buy side wants to be in or if Infinium wants to be in. Michael? Same place? Brenda? And that there weren't people in the room staying quiet on it.

MR. SECUNDA: I just want to add, because I do agree, of course, whatever regulatory regulations you need to participate, whether that's margin or anything else, obviously all participants are held to the same standards.

CHAIRMAN GENSLER: And maybe also held to the standard that they have to have a futures commission merchant who guarantees their trade at a clearing house.

MS. BOULTWOOD: And Tom raised a good point earlier, just about how these operate as profit-making entities. I think Michael alluded to it later, or just utilities, and that is an important issue related to access and impartial access.

COMMISSIONER O'MALIA: Anybody else? Brian? Or commissioner Chilton, if he has a question.

MR. DURKIN: Just to echo some of the comments here today, we really are advocating for not getting overly aggressive in terms of the definition of the model going forward in the context of adding potentially disruptive processes to a market model that has served a very, very important role in the OTC side of the business.

One of the fundamental predicates of why we're here today is to address central counterparty clearing and providing mechanisms in place to give the safety and security behind the execution of those transactions, and a number of us have I think done certain creative things over the years to provide that mechanism so that the platform exists to provide the safety and soundness of clearing. We've done it through the clearport model, but one of the things that have come out in this discussion today is hopefully a recognition of the voice brokerage and the clear importance of how that model has evolved over time in supporting swap executions in general.

So we would certainly hope that the Commission would take all of those comments into consideration as we're moving forward to developing this model.

MR. JOACHIM: Just one thought in terms of the access and connectivity issue, in the equity markets, they talk about fair and equivalent access. When you're talking about the proliferation of SEFs, defining what fair and equitable access means is going to be very critical. It can be everything from cost to speed of connectivity, the levels of access, the kinds of access you provide. I think you have to think through very carefully what you mean by that to give each of the SEFs very careful guideposts as to what they can do and can't do, because it's really going to define how your marketplace operates.

MR. WHITMAN: I would agree the definition is key. I don't have more to add than that, sorry.

MR. SECUNDA: There's a great example, you know, as Europe opened up and started having lots and lots of different exchanges, it got to be a point that paying exchange fees for all the exchanges prohibited for smaller players, and now there are many players in the market that don't have full transparency because they can't afford to pay for it, and they let little pieces out and hope that those aren't the guys that should be showing them the market now.

So the cost of this, although if you have 100 SEFs out there, we got to come up with a mechanism that each of us doesn't charge $1,000 a month to get the little bit of data that we provide. It's going to be very, very important.

Sometimes the best intents that we have create our biggest problems, so we have to make sure that if we have a lot of data transparency, that somebody puts it together and puts it out there in a way that can be afforded again by the investment community and the smaller players.

MR. GORELICK: I'd like to just add that there is a connection between the idea of open access and pre-trade transparency, or transparency in general. Access without that transparency really can be a barrier to competition. I think the purpose of having open access to these markets is to encourage a variety of competitors to open the market, tighten up the spreads and make a better market for investors. And without the transparency to what's going on, both pre- and post-trade, it really can inhibit some that competition, because it makes it much harder for participants who don't have access to what's going on in a market to really be able to compete on a level playing field.

COMMISSIONER O'MALIA: Gary.

MR. DeWALL: Just to change direction, I'm still having John's early comments about the IT and some of the requirements, we've sort of moved off target a little bit. Just, again, in the interest of an advisory, there's an interesting obligation here, because whatever the rules that you decide to implement for SEFs and whatever processes go forward, it's interesting that under the Dodd-Frank, and it's provisions repeated for dealers, for major swap participants, it's this whole role of the chief compliance officer, and I just think it's worth noting that at the end of the day, even though even here for SEFs is a contemplation of a senior officer, the contemplation of a chief financial officer, at the end of the day, it's the chief compliance officer of the Dodd-Frank that's required to establish and administer the policies and procedures and is required to ensure compliance of the organization with these policies and procedures.

It's an odd obligation, because it's almost making the chief compliance officer a guarantor, and I just hope that when the Commission finally adopts regulations, they keep in mind that hopefully that's not what's intended, that there are other officers that are doing their role, too. Otherwise, it's a pretty tough standard to meet.

MR. HARRIS: In fact, that provision would change the way many large financial institutions organize their compliance risk management functions. There are certain compliance obligations that are generally owned by the compliance function. Others are owned by other groups, whether it's finance or treasury or legal. This provision, which seemed to make compliance the owner of all of the compliance obligations of the firm, that's just not the way most large institutions run their business.

COMMISSIONER O'MALIA: Any further comments? I think we're going to go to the final panel now, which is Swap Data Repositories. We'll have the new panelists step in, and I'm just going to read quickly who we will have testifying here.

And I implore them to keep their presentations sharp and quick.

We have Tom Leahy, chief of the Product Review Branch of the Division of Market Oversight. Mr. Leahy is the team lead charged with drafting rule-making associated with the public reporting of swap transaction data on a real-time basis.

Next we'll have David Taylor, Special Counsel, Division of Market Oversight here at the Commission. Mr. Taylor is the team lead for the rule-making on swap reporting and record-keeping requirements for swap data repositories, swap execution facilities, DCMs, DCOs, swap dealers and major swap participants.

We will have two -- we'll go to Steve Joachim, EVP of Transparency Services from FINRA, can provide us some perspectives on the challenges that are facing the Commission in industry and reporting in the swaps market as a result of his experience with the trace system, and finally, we have two further -- Jiro Okochi, CEO and Co-Founder of Reval, and Pete Axilrod with DTCC, to share their views on the visions of swap data repository in this market and the technology challenges facing the Commission.

So we're going to start with the CFTC staff, we'll go to Steve and then Jiro and Peter. So Tom, it's your show. Just keep them quick.

MR. LEAHY: Thank you, Commissioner, for this opportunity to discuss real-time public reporting and rule-making. Standard disclaimer, any views expressed are my own, do not necessarily reflect those of the Commission, any commissioner or any commission staff.

Section 727 of Dodd-Frank established standards and requirements related to real-time reporting and public availability of swaps transaction data. We, in doing this rule making, are considering various issues and questions and are happy to hear what you have to say either today or during the public comment period, which will be coming up before too long.

One of the first questions is who would be responsible for public reporting of swap data.

We look at this, and the Act gives us the authority to require registered entities to report. That would be the DCMs, the SEFs and the SDRs. But also registrants, major swap participants and swap dealers.

I think one of the others questions we talk about is what is meant by real time. There's a key phrase in the legislation that is technologically practicable. It's not, I don't think, a very well-defined term, but it's something that we need to consider. It may depend on some of the variables with respect to swaps.

The next question is what data must be reported, and the legislation says price and volume. But we look at this and we say with swaps, price may not be enough. You need other fields to give context to that price, and we're working on looking at what fields should be required to be reported.

And then one other question with respect to real-time reporting is data consolidation. Should be there a consolidator? And if so, whom?

Who would that be? And does the Commission have the authority to name somebody or to require somebody to be a consolidator? The legislation is quiet on that issue. Speaking as an economist, I can give you a legal opinion. There's no explicit authority, but there's no prohibition, either.

And then the last major piece of Section 727 is block trades and large notional transactions. The big question there is what is a block trade and what is a large notional transaction? We look at blocks as being subject to the rules of a SEF or a DCM. On the other hand, a large notional transaction would be something that is off-facility and is not subject to the rules of a swap or an SEF.

So what we need to do is figure out what is an appropriate transaction size, minimum transaction size for a swap. And there, we're looking at different things. The asset class may make a difference, the contract type may make a difference.

And then finally, what is an appropriate delay in reporting block trades? The legislation says that delays may be appropriate and we are supposed to consider the effects on liquidity of reporting of blocks. So it's another question that we're trying to answer when we write our proposed rules.

So any comments that you-all would have would be certainly welcome and any questions that you may have are certainly welcome. And that's pretty much all I have. Fortunately, it is short.

COMMISSIONER O'MALIA: Thank you. Let's just go through the presentations and then we'll come back. I'd like to get everybody, or anybody who has an opinion on what a block trade is or what should be a block and what's left over from any SEF trading would be useful. I know that is a difficult question for us. Dave?

MR. TAYLOR: As Commissioner O'Malia said, I'm the leader of the Data Record Keeping and Reporting Requirements rule-making team. I'll give the same disclaimer that Tom did: Any views I express are my own and don't necessarily reflect those of the Commission or any individual commissioner.

Very briefly, new Section 21 of the Commodity Exchange Act gives the Commission appropriate authority to establish standards and requirements relating to reporting and record keeping for swaps. We are supposed to prescribe standards that specify the data for each swap that should be collected and maintained by each repository, and to carry that out, we are supposed to prescribe consistent data element standards for registered entities and reporting counterparties.

We are going to seek and will welcome comments on all aspects of the data rule making. We intend to have a series of specific comment-soliciting questions in the proposed rule making, but we'll welcome comments on any aspect of it.

Very briefly, Commissioner O'Malia asked us to think about what aspects of this rule making might be of interest to the Committee to talk about today. Some people around here have accused me of being the zealot of unique identifiers, and I suppose there's a search truth to that. We've come to believe that using unique identifiers both for the swap itself and for the counterparties for the swap and for what kind of swap is this are going to be crucial to achieving the purposes of the legislation so that it's possible to track all of those things in a reliable way. I'm happy to answer questions or get in a discussion of that.

It might also be of interest to all of you to talk a bit about the data standard that could be used. Very briefly, what we're thinking about there is two commandments. One of them is the repository has to be able to give it to us the way we want it and can use it. And then the second commandment would be the repository can ask for the data to come to it in any way it likes, as long as it's capable of fulfilling the first commandment. But we can talk more about that. I'll stop there.

COMMISSIONER O'MALIA: You are honoring the short. Steven, let's go with you.

MR. JOACHIM: Sure. Thank you, Commissioner O'Malia. Let me just first say that this is the second Technology Advisory Committee I've participated in, and I was honored to sit in the joint round tables we had. And it is interesting to hear some of the comments on TRACE, because many of the industry participants weren't in this room. It was a very long battle to get to what we got to. But it is rewarding to hear that at the end of that, that people feel pretty good about how it turned out.

It was probably a three-year process in getting TRACE launched the first time, and I do admire the requirements of the bill in trying to get this done in a very, very short period of time. I think you have some amazing challenges in front of you to bring real-time transparency in a market like this.

Let me take you through just briefly what we think of as the -- what I call the TRACE environment, and then talk about how we approached bringing transparency to an opaque environment and some of the issues that we've talked about today.

First is that we think of a TRACE environment in really five pieces. The first are the rules. The rules govern pretty much all the operations of how you define what a transaction is, some of the things that participants talk about, which data needs to get reported, when it needs to get reported. It defines who the counterparties are, what their obligations are in terms of the timing and how they'll submit the transactions, who owns the transaction itself, because the mechanism in terms of getting the trade from the counterparty to the point of aggregation could be very different from participant to participant, but you want to have a party who you know owns that obligation and has a legal obligation to ensure that they get the trade to us.

So just some of the rules. Defining the rules is probably the most complex part of rolling out any transparency facility. I've used this story a couple of times, but I once had a guy come to me and talk to me about -- one of my people on my team came to me and said we've looked at rolling out corporate bonds and we're in the process of now rolling out asset backed securities, transparency in the bond market today, and the difference between corporates and asset backs is like the difference between French and German. And I asked him what he meant by that, and he said, well, corporates are kind of like German and asset backs are kind of like French. And he said in German, there are a million rules and one exception, and in French there is one rule and a million exceptions. And I think as you face the swap marketplace, I think you're going to find it's much more like asset-backed securities, and maybe it's a million squared in terms of the number of exceptions you're going to have, in terms of the flavors and differences in transactions, and that's why the rules become very critical. The market participants need to know what they have to do. It needs to be with a minimum amount of judgment, and there's always going to be judgment in all these things, but you want to be sure you know what you're getting, because at the end, you need to be able to have comparability of the information. You need to know when you're looking at something, you understand what that is. So a lot of time has to be spent ensuring that those rules of the game are defined very quickly. So that's the first thing.

Second thing is that technology needs to be in place. I think you have to think of technology in multiple ways. It's not just the technology that exists at the point of collection and the point of dissemination, but it's also the technology. Adequate technology needs to exist at each of the participant sites to make sure that they can capture through order-management systems the number of utilities that are in place, the number of firms that put utilities in place and tools in place that help people to gather this. But you need to think about that in terms of just the continuity and the speed in which transactions can get reported to you.

Third is you need an operating unit. And some of the things we've talked about before, you'll need operations that will manage the process. Everything from, as we've talked before, registering participants, identifying what the participants are. With the number of instruments you have in this marketplace, I guarantee you're going to have a steady stream of new products coming out, and participants are going to need to know how to report them, how they're identified. You're going to have to have a central point that's going to identify those instruments, identify IDs for those instruments and make sure all the participants understand what those instruments are on an ongoing basis. So you need a group that's going to monitor that process.

The same thing as new participants come into the marketplace, they're going to want to trade the day they register. So you're going to need to be able to get information account. The counterparties who trade with them will need to know who their counterparties are and how you get those pieces of identification out in the marketplace are going to be critical.

The same thing is you're going to need a point of contact for market events that may affect market transparency so that you have a way to communicate those information. So operations is a third element of that.

A fourth element is what I call -- which is somewhat connected and somewhat not connected. It's kind of a data-cleaning operation. Tom talked about the difference between when you define a transaction takes place. Is it at the point of clearing, when settlement takes place, or is it the point of execution or when affirmation takes place? We've interpreted for TRACE as the point of affirmation the time when the bargain is consummated and the terms are agreed to. We did that because we believe that we wanted to get the information out in the marketplace as quickly as possible. The closer you do that, the more important it is that you have a data-cleaning exercise, because there's going to be errors that are going to come into the reporting facility. You're going to have trades that are going to look like they're out of line when they should be out of line and sometimes when they're just in error in terms of the reporting mechanism. You need to have some facility that's going to correct it to minimize the chances that you have bad information going through the marketplace. So you need to have a data-cleaning exercise on a real-time basis, but you also then need to be able to have a data-cleaning exercise, which often falls in what we would call our market surveillance areas, where they look back into the marketplace to identify trades that are anomaly transactions. They do it for regulation purposes, but they also do it for data-cleaning exercises, to ensure that people are reporting their transactions on a timely basis. So that's kind of the way you get clean, complete and accurate transactions.

Another element of that is you need to ensure all the counterparties are actually reporting. It may seem like it's a very simple thing to just tell everybody they've got to report, but you need some mechanism in place to ensure that all the counterparties actually fulfill their obligations. And we have a robust examination program where we go into the market participants and actually examine their books to ensure that they are reporting their trades. And even in a tight community like the broker-dealer community in the US, where they are easily -- they understand the concepts of rules and are reporting, we found many participants over the years, or some participants over the years, who have missed their obligation. And sometimes it's universal and sometimes it's in a certain proportion of the marketplace, but it happens. It just happens. And you need a mechanism to identify when you don't have all the information, because market participants over time get more and more dependent on this information and depend on the accuracy and completeness of it. So you need to think through all those elements to be sure it's there.

The last piece is you need some kind of an enforcement arm that's going to enforce all these rule and ensure that when there are violations, that there are consequences that provide incentives and the stick-and-the-carrot kind of exercise to ensure that all those take place.

That's the TRACE environment as we think of it. It's not just simply the technology put in place to make transparency take place, happen, but it is all of those other elements that really compose the environment we talk about.

In terms of the way we approach the business is we looked at this and recognized that this was a marketplace that did not have a lot of automation when we started. There was some places and some pockets where it was the bigger firms had a significant amount of automation, but there was a need to put automation in place in a lot of the other firms who were participants to be sure they could capture and report transactions on time. So we staged reporting requirements, first from a reporting time frame. We initially started at 75-minute reporting and then phased in our time frame, so over time, giving market participants time to make adjustments, we shortened the time frame to what we considered then 15-minute reporting as being real time.

Our rules were written so that we said that you had an obligation as a participant to report the trade as soon as practicable but no later than 15 minutes. So in fact, almost 90 percent of our transactions came to us in less than five minutes. Early on, it was probably 75 percent of our transactions that came to us in less than five minutes, even though we were talking about 75-minute reporting. So people had an obligation to get those trades to us relatively quickly, but we gave them the opportunity to build in their automation time to do that.

The second thing we did was we looked at phasing in terms of dissemination. We collected 100 percent of transactions on day one, and we did that partially because, I would say, now experienced with our third market of doing this, is that conventional wisdom and forecasts of what the size, scope, activity level, the breadth of participation in each market we faced has been wrong. What I mean by conventional wisdom, I don't mean anybody deliberately or intentionally would mislead us, but people see when there's no central clearing house information, they see what they do. They don't see the broad marketplace, and one value of getting all the trades in one place at one time is it eliminates guessing. You know what happens. And as the central point of collection, it gave us an ability to phase in the transparency side of the business in a way that minimized disruption of the marketplace. And we did it in phases starting with the most liquid part of the marketplace to the least liquid marketplace, giving the marketplace time to adjust, but also giving us time to look and understand the marketplace in a way that we could analyze. We brought in some academic teams and economists to come in and help us analyze what we thought the impact was at each stage. We actually organized some experiments to see what the impact would be in the places where there was less liquidity to be sure we understood what we were doing as we took steps in terms of improving, enhancing transparency, that we can measure that impact and really get our arms around whether we would have any negative impact, because the industry was forecasting that we -- what some people talked about was that we would dramatically dry up the liquidity in the marketplace. So we phased in each of these processes to give us time to do it. Took us about a two-and-a-half year process to cover the entire marketplace over all.

The other thing we did is we listened very carefully to participants, both buy side and sell side -- then I'll finish, because I know I'm going too long. As we looked at buy side and sell side and we talked to them very actively in the marketplace to understand where their concerns were. And as we're talking about the block exception, the one place that we did hear concerns from both buy side and sell side was that liquidity would dry up in the largest pieces in the marketplace. Our answer to that, after going that many discussions, was when we disseminate transactions, we would cap the size of the largest trades, and that was done primarily because universally, people felt that over a certain size, it wasn't important to know the difference between whether the trade was a $25 million trade or a $50 million trade. I just needed to know it was a large transaction in the marketplace. Give me the price and tell me it was a large trade. That's what we needed. So we created a set of caps that were developed before the launch of TRACE, before we sold this data together, that basically said for investment grade bonds, we capped them at $5 million, and when we disseminated the price, we said it was five-million plus. If it was a high-yield bond, we disseminated it as one-million plus if it was over a million dollars.

That information has -- those caps have been consistent. We've had very few complaints or concerns about that from either buy side or sell side since that time. But we have looked at that periodically and visited whether those caps could be increased. And it is possible as we go forward that we will modify those caps in terms of the size of the transactions that we actually disseminate in the marketplace, but we'll do that in a very informed basis.

So those are the key elements. I could probably talk for another two hours if you wanted me to, but key things in terms of just lessons learned in our approach as we took from TRACE.

COMMISSIONER O'MALIA: We'll reserve a room over here and you can spend the next two hours if you'd like. Jiro?

MR. OKOCHI: Mr. Commissioner, Commissioner O'Malia, Commissioner Sommers, Commissioner Dunn, Chairman Gensler, thank you for allowing me to speak to the panel today. Just a little bit of background on Reval. I started Reval about eleven years ago after selling derivatives. Came over from that side of the fence, seeing an opportunity to leverage the internet technology to help end users book their derivatives, find out what these prices really are independently, and then comply with all the regulatory standards around FASB 133, et cetera.

We, in my opinion, are a walking SDR and plan on registering to become an SDR, so I'm happy to be here today to talk to you a little bit about my thoughts on that. I think given the time frame is short, I'll go through the eight rules of what an SDR should do in sort of a David Letterman style top ten, top eight list.

So the first rule is accept data. I think going to Mr. Taylor's recommendation of Commandment 2, the SDR should take any form of data. So I think there's been a lot of discussion of should there be a standard FpML, XML, what have you. We take data, a CSV file, FpML, our own XML, or the user can enter in through the browser. The many key terms of a derivative to get the price of the derivative. So I think any SDR registering should be able to take any of the data. Let's worry about getting the uniform standard down the road. I think we have bigger fish to fry.

The second rule is, or duty is to confirm the trade. My understanding, it's not to confirm that the two trades, the two counterparties in the trade match and confirm the details, but the trade details the SDR receives are, in fact, accurate. So if that is the case, I think the onus may need to be put more so on the dealer submitting the trade. I would advise that you make sure that the dealer uses electronic connections as much as possible. Any trade, exception, handling, to be done electronically so if there's any miskeying of the data on the dealer's end, it's captured. But it would be very difficult for the SDR to go in, look at an instant confirm, look at the trade and receive -- to make sure that the details are correct. Unless you got trade details from both the end user or the other counterparty in the swap dealer, which is not part of the statute.

Number three is maintaining the life

cycle of the trades. I think very different from securities, from even CDS, these derivatives, without even amending the trade, have their own life cycle. Live boards reset, things happen, new holidays are up to when the queen has her 100th birthday pretty soon, we're going to have to have a new holiday calendar for that. So I think all of these things, the SDR is going to have to really maintain the moving parts to the life cycle of these over-the-counter derivatives, and every piece can affect, ultimately, the NVP of the price of the derivative or the future price of that derivative depending on what is happening in the marketplace.

Number four is to provide on-demand access so all the different regulators, both here and overseas, have to be able to access this information. We are a true software service company delivering our reporting over the internet, so anyone with a proper access security, et cetera, could access our data. I would recommend that any SDR have some form of web-friendly access to get to that data. It's obviously very important for the Commission to be able to take this data and analyze it. An SDR can give you all the data you want, but if you can't really look at the risk within that data, we don't even know today what the total notional outstanding really is. We get the BIS numbers, but we really don't know. We don't know what end-user positions really are out there. People aren't counting every single FX4 transaction, for example.

So I think ultimately, the SDR has to be able to take all of this data, and then, Commandment No. 1, give it back to the Commission in a friendly form. We would envision alerts, user-friendly reports that any staff member could get in terms of net-position movements, changes in volume, whether it's aggregated public or whether it's confidential and for your eyes only.

Also on the reporting side, stress testing was mentioned earlier, MPV was mentioned. It's not just about what is the value of the derivatives today. What happens if the Euro goes to 150 or oil goes back to 140? I think the Commission needs to understand what the future risk is within the system, not just there's a default today, what's the net impact of the system today.

Obviously, the SDR has the duty to keep all the data confidential and secure, so all of our employees sign NDAs, we do background checks, so I think that part of the reform should be easy for any SDR to properly comply, so long as they do have the proper controls and govern it, so one of the rules would be to have the Chief Compliance Officer responsible for compliance, and I think for SEFs, maybe it is a different situation where the compliance officer couldn't keep track of everything, but for an SDR, I think it does make sense for that ownership to be housed within compliance of the standard.

And then, of course, the SDR would have to have all the proper backup facilities, disaster recovery, access to that information when the

Commission needs it. So those are the eight basic obligations that the SDR has.

What I'd like to quickly talk about is some of the concerns I have about what we're seeing in terms of what an SDR may be responsible for. I think the biggest concern would be the time frame. So my understanding of the time frame of when an SDR has to turn on the switch and go live would be around the fall of 2011. So if the rules are issued in, say, February, it would basically give you six months to go live.

So I think there are obviously mechanical concerns with the SDR being able to book all the trades and do all the reporting that the Commission needs, but if you think about 180 swap dealers having to interface to one or more SDRs, you're going to have a lot of -- good news is you'll probably have a lot of job creation for the economy, but it will be a monumental task.

If you speak to derivative dealers when they're implementing a new trading system and maybe they have a couple hundred-thousand trades, it can take two years to implement a trading system. So 180 swap dealers times five asset classes, that's a lot of implementation work to be had.

And on that note, I think the more you try and change the requirements for swap dealers, the more challenging it will be. So if there's going to be a unified, unique identifier, every single swap dealer has to change their data base to comply. Again, it will be possible, but can it be possible within the time frames?

And similarly, if there's a standard for the data, if everyone is required to define, claim a no-interest rate swap with this XML, again, everyone would have to change their systems and interface to the SDR. So that's a top concern I think I have for everyone.

I guess the second concern I have would be competition. We're in favor of as many SDRs for registering, and hopefully whatever the rules are, they qualify and there's competition. I think it shouldn't be the utility model.

Ultimately, I think all of us around the table, our hopes are -- and I think I speak for the Commission, that derivatives volumes don't shrink for the wrong reason or move offshore. So we need to keep these costs as low as possible for swap dealers so they don't pass them on to end users and kill the market or the market goes to Singapore where there may not be an SDR requirement. So the more competition you have, pretty obvious you should have better pricing capabilities.

So my concerns would be to make sure that there's fair competition, so I think the topic of conflict of interest is really around to making sure that if there are any number of SDRs allowed, that they each have an equal right to gain access to the marketplace by showing good technology and proper service, low pricing, and the ability to be motivated to continue to improve their services to make sure as the market changes, we provide that service to both the swap dealers and the Commission. Thank you.

COMMISSIONER O'MALIA: Thank you, Jiro. Peter, you get the last word.

MR. AXILROD: Thank you. I think people can read my slide deck. It's fairly self-explanatory. I'm not going to go through it. What I did want to do to is address what appeared to be the 800-pound gorilla in the room that I think is an extraordinarily difficult and naughty problem, particularly from a technology point of view, and that is aggregation.

It's been raised continuously throughout the day that it's something that's needed. It's been a question, sort of how are you going to get it. I'm not going to propose an answer or recommend an answer unless pressed.

I do think that there is also a corollary to aggregation, which is how to assure that the regulators, they are pleural, but we're dealing with the Commission, get complete, appropriately granular and accurate information. In other words, they get all and only the information they need to get to fulfill their mission. And that's sort of what I call an inventory-control problem.

I guess in the course of the last four years when we developed our trade information warehouse for credit derivatives -- and I realize different asset classes had different problems and one size may not fit all, so to the extent that lessons can be drawn from the credit derivative market, we might be able to provide a little experience and inform this discussion, but essentially, we've had to deal with both aggregation and sort of inventory control issues in the course of development over the last four years, and in particularly difficult political circumstances.

So when we started this in 2006, it was with an industry group and with the cooperation of the OTC derivative supervisor's group that was then chaired by Secretary Geithner. The first thing that the industry had to grapple with is how do you avoid double counting. How do you avoid -- they are very arcane things. How do you avoid amending the same contract in two inconsistent ways, so forth and so on, and having that recorded in a way that didn't make any sense.

What we discovered was that the things that you might look at for precedence, Central Securities depositories or DCOs, you know, listed derivatives clearers, didn't provide good answers to these questions. So the industry had to come up with its own method of inventory control. I'm happy to share the technical specs with the Commission if you want. It's not secret, but it was a unique solution.

This sort of got exacerbated I think a couple of years ago when the European Commission had a series of industry meetings dealing with the subject of how it would address -- and these were fact-finding meetings -- how it would address the OTC derivatives markets in general, and the credit derivatives markets in particular. And they were focused both on CCPs and repositories, and there was particularly an issue of should there be a European repository for credit derivatives. And we went through really in great detail as a group collectively all of the inventory control issues with then Eddie Winemear, Cesar and Mary Onaba (phonetic), who's also left but been replaced by Patrick Pearson. And the issues are the same. You have cross-border trading. Where do they get reported? Both repositories? Then how do you avoid double-counting? What about situations where there's foreign trading on domestic underlines? A large part of the credit derivative market and all OTC derivative markets involve US trading of EU underlines, EU tradings of US underlines, Asian trading of both. Again, how do you gather all that information in one place and make sure that the regulators who have an interest in seeing that information get to see it in a useful way? And really, even in that atmosphere, the solution that seems to be evolving in Europe is that there shouldn't be a separate European repository, but there should be a complete duplicate of a global repository just happening to be located in Europe to assure that European authorities have access to it. I think that was particularly motivated by, if I may provide an editorial comment on Dodd-Frank, the unfortunate indemnity language in Dodd-Frank, which sort of has pushed them to say I need to get this information over into Europe and regulate it in Europe.

So that was the solution, and the OTC derivatives regulators forum, which is 44 regulators worldwide, they don't have any statutory authority, but this Commission and others participate in it, gave us a set of advice that we published, which basically said here's some guidance that we've all agreed on -- it was signed by all 44 -- saying this is who ought to see what data.

In a cinch, if I can summarize the rule, if your regulatory mission touches either one of the counterparties or the underlying, you get to see the data. And we are -- with the Hellenic capital markets commission, for instance, we essentially gave them all the trades on Greek underlines, regardless of where they were executed.

The only way to make sure -- I don't want to say the only way to make sure, but the problem that you to solve is how do you make sure that you get -- the domestic regulators get all the relevant non-domestic trading of the underlines that they want to get, and how do you get that in a timely manner? So if your regulatory purpose is to look at position limits, to look at maybe undue build-ups of open interest, to look at market manipulation, you're going to need the off-shore trading at the same time that you see the on-shore trading.

So the problem that you need to solve is all that information has to come to one place, and then that one place has to sort of decide who gets to see what in accordance with the rules that everybody has agreed on, and that's just a naughty problem. It happens to have been -- at least the expedient that the regulators have taken up so far in the credit derivatives market was to have sort of a utility that was recognized by many regulators that followed the guidelines that were put out by the OTC derivatives regulators forum.

Anyway, I'll leave everything there. I think aggregation really is the elephant in the room, and it's very, very difficult and naughty to deal with.

COMMISSIONER O'MALIA: Thank you very much. Let me point out it is a little after 5:00. Does anybody have a question? Well, I want to thank everyone for their attention, participation and for the presentations we've had today. The CFTC staff in addition to putting rule-makings together has put together presentations for our benefit, and I appreciate that. I appreciate all the staff that have done that. I appreciate all the participants here that have contribute as well. And I think we'll have to obviously come back to the swap data repository. There's many other items in the technology fold that we're going to explore, and we'll be looking at another meeting probably early next year. We'll have to calibrate that with where the rule-makings are, et cetera. So any thoughts or inputs you-all have on new topics, issues, et cetera, we'd be happy to review them and talk to you about them.

But let me just thank you all very much, thank my fellow commissioners, and before we leave, I'd like to see if anybody else has a final comment.

CHAIRMAN GENSLER: I was just going to thank Commissioner O'Malia for chairing this, for hosting a very helpful discussion, my fellow commissioners. And not just thanking you, but also ask you if you have thoughts before we put out rules, after we put out rules, all the way through the final rules and probably even after the final rules, we want to hear them. This is a very significant market. It's critical for end users and hedgers and investors throughout this country, and we want to promote transparency and get it right, but we need your advice.

COMMISSIONER DUNN: I'd just echo the Chairman's remarks here and thank you very much,

Scott. This has really been -- every time I think
I've got my arm around it, I have a meeting like
this and I say oh, my goodness.

COMMISSIONER SOMMERS: Thanks to
everybody for being here. Thank you to you and
your staff.

COMMISSIONER O'MALIA: Commissioner
Chilton?

COMMISSIONER CHILTON: Thank you,
Commissioner O'Malia, and your staff and for all
the members of the Advisory Committee for being
there.

I guess the only thing I'd say is
congress gave us instructions on real-time
reporting and data collection like we were talking
about, just like they gave us these instructions
and deadlines to implement the rest of the new
law. The new law. So none of this is a surprise
that we're coming out with some crazy regulation
that one day is going to fall out of the sky and
catch people completely unknown.

You know, folks who are going to be

nimble and quick are able to compete and get a competitive advantage. So a lot of folks, and we've had some comments here today, but I've met with a lot of people who think the task is too big or it's too complicated, or they want implementation delayed a year or they want exemptions just for themselves from the bill.

You know, I can't speak for my colleagues, but just because this is challenging and monumental doesn't mean it's impossible. The Chairman's done a great job of putting us on a strong, solid course for going forward, and I'm convinced we're going to get this done and we're going to get it done on time. Thanks, Scott.

COMMISSIONER O'MALIA: Anyone else? Final comment? Thank you very much for coming.

(Whereupon, the above-included matter was concluded at 5:09 p.m., this date.)

UNITED STATES OF AMERICA)
STATE OF MARYLAND)

I, EMILY BOYD, the reporter before whom the foregoing proceedings were taken, do hereby certify that foregoing transcript is a true record of the testimony given by said witness.

I further certify that I am neither counsel for, related to, nor employed by any of the parties to the action in which this deposition was taken; and further that I am not a relative or employee of any attorney or counsel employed by the parties hereto, or financially or otherwise interested in the outcome of this action.

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Emily Boyd

My Commission expires January 17, 2014