TECHNICAL ADVISORY COMMITTEE MEETING

Hilton Chicago

720 South Michigan Avenue

Chicago, Illinois

Tuesday, October 30th, 2012

ATKINSON-BAKER, INC.
COURT REPORTERS
(800) 288-3376
www.depo.com

REPORTED BY: BARBARA PERKOVICH, CSR NO. 84-004070

FILE NO.: A60A71B

TECHNICAL ADVISORY COMMITTEE MEETING

Hilton Chicago

720 South Michigan Avenue

Chicago, Illinois

Tuesday, October 30th, 2012

APPEARANCES:

SCOTT O'MALIA, CTFC

ANDREI KIRILENKO, CFTC

DAVID HARTNEY, Bank of America Merrill Lynch

CLIFF LEWIS, State Street Bank

GREG WOOD, Deutsche Bank Securities

GEORGE PULLEN, CFTC

JEROMEE JOHNSON, BATS

CHRISTINE SCIOTTO, Chicago Trading Company

PAUL KEPES, Chicago Trading Company

JIM NORTHEY, LaSalle Technology Group

CHRIS LORENZEN, Eagle Seven Trading

KEITH FISHE, TradeForecaster Global Markets

JORGE HERRADA, CFTC

JITESH THAKKAR, Edge Financial Technologies

BRYAN DURKIN, CME Group, Inc.

RICHARD GORELICK, RGM Advisors, LLC

MICHAEL GORHAM, Illinois Institute of Technology

DEAN PAYTON, CME Group, Inc.

ED DASSO, NFA

FRANK PERRY, Newedge USA

CHRIS EDMONDS, ICE

STEVE HUMENIK, CFTC

SUPURNA VEDBRAT, BlackRock

CHAIRMAN O'MALIA: Okay, we're going to get started with the Technology Advisory Committee meeting. I greatly appreciate everybody having come from out of town. I know how difficult it has been and obviously we are very concerned about those that are still back in the East that has to deal with this horrendous storm. So we do appreciate everybody making the effort to get out here.

And it's also fortunate I had moved to Chicago in light of this four months ago, so my weather skills are improving. So we are going -- I know we have a number of people on the phone. We will get to that, those that couldn't make it to the room, we tried to accommodate everybody with a pretty liberal substitution policy, but I'm pleasantly surprised that so many people are in the room today and I really appreciate that.

So I would like to welcome all our panel members and members of the subcommittee and traders and other guests, thank them for joining us in Chicago. I would also like to thank the FIA who has been an enormous help in setting this up and for allowing us to coordinate with the FIA Expo, which, of course, is a technology showcase and I think that it's an appropriate place for us to be here with this event.

First I want to go through kind of the agenda that we're going to have today. We have a number of things -- the agenda is on the table, but for those on the phone, we'll go through what we want to accomplish today and try to keep us on schedule.

So first topic is automated high-frequency trading. And I initiated a discussion when I sent a letter to the TAC members a year ago proposing the seven part definition for HFT. Today I'm pleased we will be able to receive testimony from our four expert working groups and receive their thoughts and recommendations related to defining high frequency trading. Developing the use of capabilities and analysis and addressing market microstructure impacts.

The second topic for today will allow us to follow up on the emergency technology meeting held on July 28th this year regarding the development of technology solutions to improve the oversight and monitoring of customer funds in response to Peregrine and MF Global. In that previous meeting there was no schedule for deployment of new technology solutions that the NFA had proposed and I want to follow up on those developments to see where we are today and make sure that proposal is on track.

The third topic will be relating to the Commission's final rules regarding clearing and risk management. Those who follow our rules will note the Commission has adopted final rules imposing requirements in this area and has subsequently offered an extension of time to comply with certain of these requirements.

It is an understatement to say that this process has created confusion regarding the standards under Part 1 and the accepted technology solutions. I would like to be able to put an end to the confusion and we've asked Hugh Rooney from the Commission's Division of Clearing and Risk here in Chicago, because John was stranded back in DC. So Hugh, we're going to ask him to come in this afternoon and explain what the standards are, what the specific solutions may be and when we can expect the technology to be in place.

We have also invited market participants and our TAC members log their thoughts on the likelihood of achieving these capabilities. This is based on an online closed door need to expose to the public for review and discussion. I can't think of a better view than a room full of technology experts.

So today we will receive final recommendations from the HFT subcommittee. I'm grateful for all the

hours that respective groups have put in debating and considering the finer points and the definition and the policy nuances being recommended here today.

While I'm looking for to today's debate, I also want to think about the next steps. And so keep in mind, as we go through this today, we will receive four working group recommendations and what we would like to do is have the TAC Committee obviously consider those and think about what they will recommend to the full Commission and make specific policy recommendations to the Commission based on the recommendation presented by the subcommittee.

Second, in making the recommendation I hope the TAC members will consider these solutions in relation to proposing market controls, including pre and post functionality.

To help facilitate this discussion, I've compiled a 19-page list of policy solutions that are already in place or have already been proposed including direct market access controls, recommendations from the CFTC-SEC Joint Committee regarding the May 6 Flash Crash and the new Commission regulation promulgated pursuant Dodd-Frank.

It's in your packet on your table at your seats

there, so these are the policy recommendations. In fact, we started with Michael here to my right, Michael Gorham helped us lead that first discussion on pre trade functionalities at one of our very first technology meetings. That's in the packet.

Everything else, the exchanges and discussions we've had thus far, I've pulled from presentations. Of course, we've had an immense number of Dodd-Frank rules, all of which contribute to regulatory filling of the gaps, if you will. And before we go forward or at least as you make your recommendations and thoughts, keep in mind what the controls are in the market today. And you'll hear from CME and ICE and others about controls they have at the exchange level. And if we are going forward with a different policy solution, we need to have that overlay and understand where that consist may be.

It is my hope to have our next meeting in the first quarter of 2013 with recommendations to the commission on the HFT subcommittee members. And how we are going to do that, we have yet to figure out, but we are going to just let the day play out and see what your thoughts and recommendations are for today and then we will get back to you and discuss a path.

Last I would like to make sure that the TAC members are aware of the recent report issued by the UK Government for Science on October 23rd. Professor Sir John Beddington, the chief scientific advisor of the Government of Science in the UK released a report on automated high frequency trade. He wrote a report entitled, The Future of Computer Trading in Financial Markets. He correctly points out that the research regarding the economic efforts of computer based trading has not kept pace with the technology advancement in the market.

The report focused on closing the research gap and it took a look at more than 50 papers on HFT and benefitted from the participation of 150 leading academics from 20 countries. I think this report can serve as a very useful research tool going forward. I look forward to working with the UK government making sure that market solutions are fact based and modernized.

I think I've sent you a copy of this nearly 200 page research document which was very thorough. I welcome you to take a look at it. And anybody who has not seen it, we will post it on the CFTC technology Advisory Committee website.

Again, I am very grateful to everybody who could be here today, especially in light of the storms. I think the next step we will go around the room and make sure that everybody, those who don't have kind of corporate or market affiliations on your name tags, I think it would be useful to go around the room and have everybody introduce themselves and then we will go to the phone and anybody there.

I will start to my left with our chief of -- CFTC's chief of commerce.

MR. ANDREI KIRILENKO: Andrei Kirilenko, CFTC.

MR. CHRIS HEHMEYER: This is Chris Hehmeyer, I have a couple of different hats I wear. One is the proprietary trading company in Chicago called HTG Capital. I am non executive vice chairman of night futures and I also am Chairman of the Board of the National Futures Association.

MR. DAVID HARTNEY: I'm David Hartney, head of futures for Bank of America Merrill Lynch in the Americas. And also head of global execution.

MR. CLIFF LEWIS: Cliff Lewis, State Street Bank, I run a bunch of businesses, including clearing businesses.

MR. GREG WOOD: Greg Wood, I'm director of

Deutsche Bank Securities. I'm also the president of the Futures Industry Association, IT Division.

MR. GEORGE PULLEN: George Pullen, CFTC, under the Division of Market Oversight

MR. JEROMEE JOHNSON: Jeromee Johnson, BATS. Head of BATS options and vice president of market development.

MS. CHRISTINA SCIOTTO: Christina Sciotto, Chicago Trading Company.

MR. PAUL KEPES: Paul Kepes, Chicago Trading Company.

MR. JIM NORTHEY: Jim Northey, LaSalle Technology Group and also America's Co-Chair of Fixed Protocol.

MR. CHRIS LORENZEN: Chris Lorenzen, founder and CEO of Eagle Seven Trading

MR. KEITH FISHE: Keith Fishe, managing partner of TradeForecaster Global Markets.

MR. JORGE HERRADA: Jorge Herrada, associate director of IT at CFTC.

MR. JITESH THAKKAR: Jitesh Thakkar, I'm the founder of Edge Financial Technologies. We are a consulting firm.

MR. ED DASSO: Ed Dasso, vice president market regulation, National Futures Association.

MR. DEAN PAYTON: I'm Dean Payton, managing director for CME Group.

MR. FRANK PERRY: I'm Frank Perry with Newedge USA, senior director and partner in services covering principal trading groups.

MR. CHRIS EDMONDS: Chris Edmonds, Intercontinental Exchange and a partner of ICE Clear Credit.

MR. STEVE HUMENIK: Steve Humenik, general counsel and chief regulatory officer, CFTC

MR. RICHARD GORELICK: Richard Gorelick, I'm the CEO of RGM Advisors.

MS. SUPURNA VEDBRAT: Supurna VedBrat, Managing Director, electronic trading and market structure for BlackRock.

MR. BRYAN DURKIN: Bryan Durkin, COO, CME Group

MR. MICHAEL GORHAM: Mike Gorham, Industry Professor, IIT Stuart School of Business.

CHAIRMAN O'MALIA: That is our in-house panel. I would like to go to the telephone to see who else is joining us.

MR. GARY DEWAAL: I'm here, Gary DeWaal, special advisor to the CEO Newedge.

CHAIRMAN O'MALIA: Anyone else? So welcome to

those who could call in. For those on the phone, and I know this will not be a problem for Gary DeWaal, just butt in.

MR. GARY DEWAAL: Thank you for that vote of confidence.

CHAIRMAN O'MALIA: I think we're going to go straight into our first panel presentation. We are going to start with the Working Group 1. And who -- we'll have Greg Wood offer the presentation on that. I believe all the panels' Power Point presentations are on your table. There are more, I believe, in the back and of course they are on the screen and I believe we sent them out electronically if you have them electronically. Greg, thank you.

MR. GREG WOOD: Thank you very much, Commissioner O'Malia. Greg Wood here and I have the honor of presenting to the Committee for Working Group 1 of the Subcommittee on Automated and High Frequency Trading. We are tasked with the definition of high frequency trading and a further discussion on automated trading.

So first we were assigned coming up a definition of high frequency trading and how that fits within automated trading. We have several members of Working Group 1 who couldn't make it, Joan Manley, CFTC. Sean

Castette, Joseph Saluzzi and Chris Concannon who couldn't make it. We are expecting Colin Clark and Larry Tabb to arrive sometime soon.

The presentation is fairly in depth so I am going to try, especially since we are sharing this session with Working Group 2, I will try and keep my presentation just to the main points. So on Page 2 we have the definition. This is very similar to what we put out in June. We chose to use language and to recognize legal interpretation. We chose to emphasize mechanical description which is deliberately neutral regarding types of trading strategies and how they interact with the marketplace.

Mainly because there are many types of market activity that can be potentially labeled as HFT. We want to provide a basis for a regulatory definition of HFT as opposed to a popular definition, since we have reviews and want HFT to actually constitute HFT. And we also want to keep it as broad as possible so that it includes future practice as well as current practice.

So, with the definition, we had cumulative criteria, so that we only had a trading system that actually meets all of the criteria to be considered high frequency. And we came to this definition as overly

broad to allow the working groups to build on it and to avoid any regulatory arbitrage

So if we go to Page 3 you will see that the definition that we put together in May 2012 and at the June 20th TAC meeting in DC. One of the things that -- the comments that was made after last meeting was our definition was too broad, particularly Point D where we said that we had to use high rates of orders or quotes submitted.

So that ultimately raised concerns, because people felt there were too many trading systems to potentially fall under this definition. And some people who wouldn't consider themselves very high frequency would be labeled as high frequency. So we took that point away and then worked on how to expand Section D of the definition to try and be more quantitative.

The challenge there was that we didn't want it to be actual end figures, mainly because those figures can change and people can obviously say, well, I'm not submitting 1,000 quotes or whatever we decide it to be, we are submitting 999, therefore I don't fall within the definition.

So here is our October definition for high frequency trading. High frequency trading is a form of

automated trading that employs, A, algorithms for decision making, order initiation, generation, routing, or execution for each individual transaction without human direction.

B, low-latency technology that is designed to minimize response times, including proximity and colocation services. C, high speed connections to markets for order entry and D, recurring high message rates, brackets, orders, quotes or cancellations, determined using one or more objectives forms of measurements including, 1, cancel-to-fill ratios; 2, participant-to-market message ratios or 3, participant-to-market trade volume ratios.

We also put a little caveat or footnote onto that where it says that, Objective forms of measurements are determined by a regulator for specific financial measurements or classes of instruments and provide a benchmark for comparing activity that is higher than normal. Such benchmarks should be published on a periodic basis and applied to a specific time period following publication. These measurements should be applied to the participant responsible for the recurring high message rates.

We also included one last line that says, High

frequency trading is a mechanism utilized by a variety of trading strategies, including but not limited to, liquidity provision and statistical arbitrage

So on Slide 6 we talked about the rationale for changes to Part D. We wanted to, since there was a lot of concerns about the rates and we wanted to extend the definition to reflect the activity has to regularly recur to be considered high frequency trading, as opposed to one off bursts of activity. And the main reason we did that is we all have trading systems at various firms, including my own, where if there are particular market conditions they could exhibit some of the characteristics of high frequency trading, yet you would not consider it high frequency trading because it didn't recur on a regular basis.

We extended the definition to include the activity can be quantified, although the definition deliberately avoids its own quantification. We want the metric to be decided by people who actually look after the marketplaces where this activity occurs. These forms of measurements chosen are intended to allow a regulator to measure activity without direct access to the trade algorithms employed to generate the high message rates.

So the idea is you don't have to go to the trading system that is exhibiting the mechanics of high frequency trading. You can measure the activity from the trading system using identification trading systems, which is very common within futures exchanges and/or register as an ITS.

So after a lot of discussion and some dissent, particularly from Joe Saluzzi, since he's not here to speak up for himself, he was -- we had a very democratic process where we were trying to decide should we also include holding periods and portfolio turnover frequency. These, in particular, were concluded as being during times of high frequency trading, where there is a high turnover of positions, we decided democratically we would not include those metrics, so they have been left out of the definition.

On Slide 7, we have a flow chart representation of the definition. This is basically a pictorial view of the definition. We started at the top left-hand side, we have several decision points and if you say yes to every one of those decision points, then you would actually be high frequency trading under our definition. If you say no at various points, then you would not be considered high frequency trading.

So after we finalized that definition, so we had a definition of high frequency trading, we then, as a working group, took a step back. And we had already mentioned in the definition that high frequency trading is a form of automated trading. So we then looked at what constitutes automated trading. And a very large part of our markets across most of the classes, that are traded electronically, is generated from automated trading.

So here is a brief overview of automated trading. We discussed and we present both within the presentation and within a white paper. The white paper has a little bit more information, so once we have all of that finalized we will obviously publish that for public dissemination.

Automated trading covers systems employed in the decision-making, routing and/or execution of an investment or trading decision, which utilizes a range of technologies including software, hardware and network components to facilitate efficient access to the financial markets via electronic trading platforms.

Those electronic trading platforms may be supplied by an exchange or designated contract markets electronic crossing network, alternative trading systems

or even a swap execution

It is important to note that the automated trading process can be initiated by either human or a machine making the decision which financial instrument to buy or sell. Now, that's because people are using execution tools now in automated trading, but the decision of what to trade comes from human. It can come from a computer model, but is then passed on to a human to then execute.

Where a computer is actually making the decision what to buy or sell and then execution we consider that block box trading, so we tried to stay away from the term black box because that has connotations.

So as we said, high frequency trading is a subset of automated trading. All high frequency is a component of automated trading, but not all automated trading is high frequency. That is a fairly blunt statement.

On Slide 9 we have a diagram that is probably a little bit more focused towards the futures environment, because its using routing and it sends ATS's. ATS's in this -- are present in alternative trading systems such as futures venues. The idea behind this is to show that there are various points in the automated trading process, particularly the trading decision, the trading

strategy and what system is then used to execute the trade. A routing decision, where there is multiple markets so you can execute them. And then there is, on the platform itself, trading rules and match orders.

So we go through some of this in more detail now on Slide 10. Components of Automated Trading. Automated trading is initiation of an order for a financial transaction either by human or machine. Automated trading system, this is the futures concept of ATS, a tool that is used to decide how the orders are executed in the market.

Automated or smart order routing, this is a tool used to decide where and how to route the order, if applicable to market structure. This is to markets where you have fragmentation, it is not currently applicable in futures markets.

Automated execution. So this covers what is provided by the trading platform. The trading platform can be any exchanges or automated trading system or Electronic Crossing Network that provide an electronic platform for the matching of orders.

Automated matching rules are the instructions for an electronic trading platform on how orders are to be matched and this includes the rules they use to actually

provide the logic for matching. But it can also include where exchanges can provide more complicated order times that may influence how the order is routed.

One other point that very important in the marketplace is a key input into the automated decision, not just any the decision of what to buy or sell, but how you actually execute it.

An optional component of automated trading is colocation of proximity services. The ability to locate close to the trading platform so as to minimize the latency in receiving market data and sending orders. You don't need to always be co-located.

So on Slide 11, just a few points about automated trading systems. Automated trading systems utilize computer algorithms that have discretion over one or more the following: The splitting of the order into multiple parts; the timing of execution; whether the order adds or removes liquidity; the execution price of the order; the use of displayed or non-displayed orders and routing strategies that minimize trading fees, if applicable to market structure.

Automated trading systems can be deployed by the buy-side, proprietary trading firms, sell-side broker/dealers or vendors. Buy-side or proprietary

trading firms will often couple the decision making regarding what to do with how to trade it. So they will generally react to market conditions and execute in the same electronic feedback loop to make sure that execution meets the investment criteria of the investment decision that has been made.

Sell-side firms and vendors providing automated execution systems that are accessed by an API or a GUI for the buy-side to enter orders. That is the traditional execution that buy-side brokers provide. And also includes systems that are provided by some of the vendors that write their own strategies or use one of their canned strategies.

Automated/Smart Order Routing technology is employed where market fragmentation exists. A routing algorithm outlines the rules used to make the routing decision. Rules may include routing simultaneous orders to multiple markets or routing orders through several price levels on a single marketplace, depending on the algorithm that is actually written into this router.

Routing decisions are based on exchange, ECN or ATS the characteristics, such as the price liquidity, speed, fill rates, execution fees and other criteria. All these criteria get factor into the routing

decisions.

Electronic market date is pricing information provided by matching platforms or service providers and contains pre-trade information as well as post-trade information. Feedback loops occur with trading platforms sending acknowledgements or order executions and cancellations back to the trading firm.

The electronic trading system that is being used, black box, whatever, has submitted an order, that influences the market, that then comes back, obviously it has had an impact on the market or liquidity and that then affects the decision that is subsequently made by the automated trading system.

As mentioned before, supplementary market data is increasingly available in the form of machine-readable news feeds. So just on the other side, Colocation and Proximity Services. These services are typically provided by exchange, broker or vender allow automated trading systems to be placed physically closer to an electronic matching company.

Colocation is typically provided by the exchange in that you are in somebody's datacenter. Proximity services are usually in a different datacenter and will be provided where colocation is not available

or not practicable or where one trading system needs to trade across multiple matching platforms. So if you look at the markets in New Jersey they are distributed across several datacenters to match up with one datacenter, so it may not be feasible to actually be located next to all those platforms. You may choose which one is the best, the best approximation of where you want to trade from.

So colocation with an electronic trading platform is an option that may be utilized to minimize network latency between receiving market date, decision making and order placement. And this is particular where the automated trading systems relies on speed for its efficiency.

The last slide. Just a quick summary of what we went through here. High frequency trading is a subset of automated trading. Any definition of HFT should acknowledge that various types of automated trading can exhibit mechanical characteristics of high frequency trading.

However, for automated trading to be considered high frequency it needs to match the cumulative criteria that comprises the definition, including recurring high message rates determined using one or more objective

forms of measurement.

As per the June 20th TAC meeting, the emphasis of the high frequency definition remains intentionally mechanical and is intended to complement the following: Further studies into types of trading strategies that rely on the mechanics of high frequency trading and further studies into abusive practices that should be highlighted through increased surveillance and prohibited.

Thank you very much.

CHAIRMAN O'MALIA: Thank you very much. That was a very thorough presentation and it gets to the point of how difficult this job has been, why nobody else has done what we attempt to do here. Does anybody have any questions? I would like to go to the next presentation, but I think there are a number of maybe, if you want, questions to clarify certain things or anything wasn't clear.

I would like to come back after Working Group 2 and then kind of put both projects on the table and discuss them, in general. But if there are any clarifying issues you have with Greg's presentation, raise them now.

MR. MICHAEL GORHAM: Just two quick questions.

This is a great presentation, I really like this. On Slide 10, when you talked about automated execution and you talked about the various electronic trading platforms, you listed about six things and then you put etc. after that. Is there actually -- what else is there besides what you listed there?

MR. GREG WOOD: We are covering ourselves, we are. You could argue this is a very U.S. centric, because we have a ton of trading systems. Obviously in Europe this will be most likely used trading MTF's and OTF's. So we are really trying to keep ourselves open. But what we have currently within the U.S. and futures marketplaces and leave it open for the future.

MR. MICHAEL GORHAM: And the second question, and Commissioner O'Malia, stop me if this should be for later, but when Scott got a little frustrated with the fact there was not a definition out there and he created his own about a year ago, I think.

One of the responses was from a principal trading group, which had an incredibly simple solution, which was just a directly participant concept, because they -- one of the nice things about it is it was simple and it was real easy to define and it was out there. My question really is, how is this superior to that? Is

that a question for later or is that for now?

CHAIRMAN O'MALIA: Take a stab at it.

MR. GREG WOOD: I'm happy to answer that one. One of the things that we discussed quite a lot is there are a lot of trade structures out there that use various participation. Not just the principal traders, there are various strategies that look very similar to high frequency trading that are utilized by systematic fund managers. This is actually one of the arguments I took.

We had a very a broad representation on our working group of people from the sell side, principal traders, exchanges, and Larry Tabb as well. Who is in a category of his own. One of the things is that not everyone who uses strategies of trading in the case of high frequency goes direct to the exchange.

Certainly at our bank we have to make sure we have adequate capacity and band width. And so in order to -- is this someone who has direct access? I would say no, because that doesn't cover everyone.

MR. MICHAEL GORHAM: Thank you.

MR. COLIN CLARK: The other definition, what we are trying to get as is really, one is access to the tools and the tools are the first three points. It is the algos, it's the infrastructure, it's the high speed

connection and then the fourth dimension really gets at not only access, but use of the tools where you're exhibiting, you know, the high message rates. I think that's a differentiation from our definition.

MR. BRYAN DURKIN: I would also like to thank you for the excellent presentation and also for clarifying Point D in terms of criteria. I know that you are recommending in here that the forms of measurement should be determined by a regulator for a specific financial instruments or class of instruments.

Can you elaborate on what's intended by that? Who are you meaning? Is it the CFTC, is it the SRO's?

MR. GEORGE PULLEN: We did talk about, as a group, to use the word SRO or to say CFTC. We intentionally left it as regulator and that was a calculation. So it was intentionally left out.

MR. BRYAN DURKIN: Does that mean it could be either/or or what does that mean?

MR. GREG WOOD: It could be either/or. What we wanted to say here is it should be a regulatory organization that has responsibility for its markets. They are people who know those markets, so they should be the people who set the objective for measurement.

MR. GARY DEWAAL: On the same point that Bryan

just raised. Is it then possible that differing exchanges could have different measurements and different benchmarks? And you also say published on a periodic basis, so this is you would evaluate the benchmark on ongoing review? What would prompt that review? And also too, do you have any current reflections on what would be the right ratio that you referred to in Subsection D?

MR. GEORGE PULLEN: So to try to answer some of those questions, I think for consistency sake and, again, this is just my opinion, because we relied upon ourselves on, I think from my point of view, as an economist, I would like to see the CFTC work with some of the different agencies and the CFTC can establish a framework under which it could work.

That way a minimum is achieved and then independent and alternative measures can be used by SRO, as long as they follow within the broad framework of the CFTC so there is a consistent approach, in so much as that we make sure that our financial measurements or classes of instruments. There, of course, would be cases where those instruments might only be germane to one or two exchanges.

MR. GREG WOOD: And just to add on to that point,

yes, we would like to see consistency in the approach where you don't necessarily see it as being sort of one benchmark across the classes. For example, options trading, because chances are there is going to be a lot more activity as the underlying moves around, than there would be in what is the future market. So that needs to be taken into account by the regulatory organization.

MR. COLIN CLARK: Just one more quick point. We do mention on the metric, specifically D 2 and 3, the ratios are based on the participant's market ratio. So to the extent it's a very fragmented market, the exchange may only be capturing a portion of that and that the ratio is really going to be captured by a regulator with broader access.

CHAIRMAN O'MALIA: On the line in your asterisk, you have benchmarks should be published on a periodic basis and applied for a specified time period following publication. What is periodic? How periodic?

MR. GEORGE PULLEN: I really wish Joan was here for this one. She was able to cite to a reason to have this be done based on a specific period and for increasing time periods. But it was something that we contemplated and it seemed to us that periodic might also vary by specific instrument, so therefore we did

instead use arbitrary numbers. We do that intentionally.

CHAIRMAN O'MALIA: Do you have a sense of is it daily, weekly, monthly, hourly?

MR. GREG WOOD: I would say it's going to be a period of like three months, six months. It's something we advised based on market conditions and changes in marketing. It is simply transparency.

MR. STEVE HUMENIK: I believe you said before the definition is crafted broadly. Just a question in terms of any thought given to what percentage of transactions would be captured by this particular definition, since it is drafted broadly?

MR. GREG WOOD: I think it is still open for debate as to how much activity in the marketplace. Let's take future markets as an example. How much comes from automated trading or high frequency trading. One thing that the CME does is it -- it will ask everybody to tag their activities saying whether they are automated, that also includes exchange from an execution order a broker or a vendor provides.

So if you look at that sort of -- what I'm trying to get at here is you can say something like

60 percent of the activity in the market might be coming from automated trading. With this definition, we probably have narrowed that down considerably, but we have narrowed that down conceivably how we are doing high frequency trading.

MR. COLIN CLARK: If I can elaborate on that, again without getting into any specifics. Obviously this depends on the market, the product area, but if you think about each piece of definition, you know, obviously access to the algorithms, that's a pretty significant number of participants in the marketplace, hundreds. You narrow it down to, you know, colocation, and it gets smaller, but I still think that it's a significant number of firms.

You add in, you know, the high speed connections, that's going to narrow it down a little bit more and then you start getting into the significant activity. I can't tell you that, you know, in any one market it's probably common knowledge that the top 10 or 20 firms can represent 50 to 70 or 80 percent of the overall volume in the marketplace. And that being said, a subset of that firm's activity may be, you know, classified as high frequency.

MS. SUPURNA VEDBRAT: Does the definition differentiate between principal trading and agency or agency like trading or execution?

MR. GREG WOOD: Agency could also include agency and exchange versus trading, which may exhibit high frequency trading.

MR. DAVID HARTNEY: Comment on the dissent you mentioned regarding portfolio turnover. Conceivably there are risk issues and questions that have been raised about inter day exposure of high frequency shops versus every day margin. Can you comment?

MR. GREG WOOD: One of the reasons why we didn't include -- well, there are two reasons why we didn't include portfolio turnover. Firstly, we wanted to remain strategy neutral. So if you had portfolio turnover it implies that you are have a strategy. The second reason why we didn't include it is because it was very difficult to measure.

How can you measure someone's portfolio turnover without knowing everything that trader is doing? So that's one of the reasons why we left that out.

CHAIRMAN O'MALIA: Well, let's go to the

second panel, Working Group 2. And I think we'll have some time at the end to think about some of these a little bit more, more questions on definition and Group 2's questions as well. Who is going to present for two? Countries Lorenzen.

MR. CHRIS LORENZEN: I would like to thank the Commission and staff, Commissioner O'Malia and Chief Economist Kirilenko and the members of the TAC for their time on these most important issues and the opportunity to present to everyone here.

Today our working group will be presenting quality measures and gap analysis relevant to automated and high frequency trading. I would like to reintroduce my fellow group members, Keith Fishe managing partner for TradeForecaster Global Markets. Jim Northey, partner and cofounder of LaSalle Technology Group and Paul Kepes, partner and cofounder of Chicago Trading Company.

Unfortunately, Chris Isaacson, senior vice president and chief operating officer of BATS Global Markets is unable to attend. I am Chris Lorenzen, founder and chief executive officer of Eagle Seven Trading. Also we would like to thank Jorge Herrada and Harold Hild for their help and participation in

the working group.

I would also like to note two additional contributors, Jeromee Johnson, vice president market development BATS Global Markets and Christine Sciotto, executive director, Chicago Trading Company.

Our original task was modified since our presentation on June 20th. We have now been asked to look at market quality relevant to both automated and high frequency trading. I will speak about market quality and then Jim Northey will talk about standards and gap analysis.

First, quality can be examined in the following three areas: In the marketplace; in the market participant's activity and in the market systems and operations. Specifically Working Group 2 looked at these areas because they are intrinsically linked with one another to make the markets work properly.

Marketplace quality is a function of the quality of the collective activities of all of the participants and the quality of the management of systems and operations within the marketplace.

Marketplace quality can be distinguished by

four separate factors, liquidity, price discovery, volatility and the cost of trading. Jonathan Brogaard suggests in his paper, High Frequency Trading and Its Impact on Market Quality, that high frequency trading plays an extremely important role in price efficiency and the price discovery process.

He goes on to say that high frequency trading has no impact on volatility and potentially decreases it. Although this idea continues to be researched further, it remains a point of contention.

One comment that I would like to make is that over the many years of observing and trading in the markets, I've found that markets with tight spreads have meaningful market depth, which leads to low volatility.

Yesterday on CNBC a question was asked as to why all of the electronic equity markets were closed because of the storm on the East Coast. Was it because there was going to be a lack of liquidity and thus increase volatility? These are questions we must ask ourselves.

One can say that marketplace quality is improved by strategies that have liquidity and aid

in price recovery, such as market based strategies and arbitrage trading. Market making activity keeps the markets liquid, deep and aids in price discovery.

Arbitrage trading provides the path to a cohesive market. Without it, markets for related assets will diverge on their own. But with it, when prices diverge across markets, arbitrage trading steps in, which brings the markets back into balance between venues.

Additionally, our group would like to point out that market quality also depends on the ability of market venues to keep fees low, provide people opportunities for access and to attract a wide variety of end users.

After looking at marketplace quality, which includes all parties, it's equally important to look at market participant quality. Market participant quality focuses on quality that an individual trader or firm provides to the market. This is a new and important topic.

While each participant's activity is linked to overall marketplace quality, we need to look at the individual market participant's quality as well.

We can then ask how can each trader or firm provide benefits to the market.

The quality and attributes of a market participant play an important role in assessing the markets. If we are to look at a few metrics we might ask and break down the following questions: How close are a trader's orders resting to the top of book? Delving deeper, what percentage of the day are a trader's orders resting within the first view price levels?

The closer the orders are to the top of the books, the greater chance they have of being executed and improving markets. What else can we observe? How much displayed liquidity is the trader providing? The larger the quantity, one could say, the better the quality in most instances.

We could also ask, how much volume does the trader trade over the course of the day compared to the overall volume of that particular instrument. Also, how persistent are the resting bids and the offers? By that I mean, how quickly does the participant return to the market after the order is executed. Is the trader or firm consistently providing orders.

You can also ask, how quickly are the orders adjusted given changing values? For example, if you look at a market participant who is making markets in two highly correlated or fungible products, they must be able to quickly change their prices based on changing values. Keeping prices in line and producing a hire quality market.

Any policies that result in stale quotes will produce an increase in predatory trading practices, thus speed is a vital factor and contributor to the market participant's quality. A market maker's willingness to persist on orders, to continually close relies on their ability to mitigate the risk and hedge their inventory.

There is a possible correlation between speed and the quality of quotes from a market maker. Speed can be looked at as a positive attribute which keeps values in line. All these characteristics play a part in evaluating how to make the market not only more efficient, but more equitable and proper.

A recently published study by Hagstromer and Norden, analyzed the HFT activity on the OMX by two strategy types, HFT market making and HFT opportunistic. HFT market making refers to

strategies of, quote, both a buy and a sell price and a financial instrument or commodity, hoping to make profit on the bid ask spread. HFT Opportunistic refers to arbitrage and other HFT strategies.

What Hagstromer and Norden concluded is that the majority of HFT volume and more than 80 percent of limit order submissions were associated with market making. While some people may disagree, Hagstromer and Norden further stated that HFT market making and HFT Opportunistic activity together mitigate volatility.

The paper also analyzed how policies directed at imposing a minimum limit order duration, reducing order-to-trade ratios and instituting financial taxes will affect market quality.

They found that a policy imposing minimum limit order duration or reduced order-to-trade ratios are implemented, it will limit market maker's abilities to adjust their prices based on changing values. These policies will likely not only reduce the amount of market makers, but it will also cause them to widen their quotes and reduce their stock. This is will be a detriment to the entire

marketplace. Any policy measures that increase the risk of liquidity providers being picked off will harm our market quality.

They also suggest if the financial tax is passed it will render most HFT strategies unprofitable. What we need to remember is that Hagstromer and Norden had previously found that the majority of all HFT volume is related to market making. Markets will be thinner and volatility will rise.

Although we are citing this one study, there are a number of additional studies that look at HFT and the cash equity marketplace. Some of these papers have studied different markets, different timeframes and have defined HFT using alternative criteria. Their conclusions, therefore, may differ.

In fact, the more comprehensive study involving HFT was just released by the Chief Scientific Advisor to Her Majesty's Government and Government for Science in the UK, Professor Sir John Beddington. This study involved the work of 150 leading academics and experts from more than 20 countries.

Together they developed over 50 commissioned

papers, which have been the subject -- which have been subject to independent peer review. The study found that computer based trading has improved liquidity, improved price discovery, not increased volatility and has reduced transaction costs.

The studies findings were very similar to Hagstromer and Norden's findings in that imposing minimum limit order duration on orders and reducing order-to-cancel trade ratios will be problematic particular to the overall quality of the market.

One of the main recommendations that the study suggests is that any new policies or regulations must preserve the benefits that HFT brings to the marketplace.

Market System Quality directly affects the issue of market quality. Market systems covers not only the technology used, but the operational processes that firms use to govern their internal actions. To address this specific point, my firm and other firms in the industry has responded by publishing best practices documents. These can be found in a Futures Industries Association website.

I'm referring to the FIA Principal Trader's Group and the European Principal Trader's

Association Software Development and Change Management Recommendations white paper. Also published is the Futures and Options Association's Guidance on Systems and Controls for Electronic Trading Environments white paper.

Both of these papers go to great lengths to address these complex issues to the benefit of everyone in the industry. We also have regulators such as ESMA, ASIC and SMA who are responding along with independent efforts like ANSI, X9 and ISO who have come up with quality management systems standards for automated trading.

We believe by discussing the issue, in careful detail, we can make our market stronger for everyone who participates for decades to come. I thank you for your time and I'll now give the floor to Jim Northey who will speak to you about market systems standard operations and gap analysis.

MR. JIM NORTHEY: Thanks. I want to talk about market systems quality. And the word system here, I want to make sure we don't limit that just to the thought of just computer system. We are talking about the entire processes and the entire system of trading that takes place. And I wanted to

introduce the concept of quality management system standard and benefits it might provide to the industry at a time where we find ourselves, as other industries have in the past, facing market perceptions and market quality and market integrity issues.

And I wanted to start out with just a couple of quotes that lead to the definition of a quality management systems standard. The first one, I don't know how many of you -- I'm pretty old now, I had the benefits of working for an aerospace division of General Motor's starting in January of 1980. And I can tell you the general attitude at that time was fairly pessimistic.

I think we had reached the end of our quality, in fact it was called a quality crisis. The U.S. was not perceived as a leader and out of that process came the whole quality revolution that really turned U.S. manufacturing and leadership around throughout the 1980s.

And it's interesting, one of the leading visionaries was Deming, who actually was responsible -- he and Durand were responsible for the quality operations in Japan. They actually went to Japan

and helped build in Japan. So we brought back their technology.

And one of the fundamental premises on quality is, if you can't really describe what you're doing, then you don't probably know what you're doing. And you may not have full control over your process.

The other important aspect here of a quality management systems standard that we are going to be talking about is that it used to be there was a small department in a manufacturing company called a quality control department. And to really create quality and address issues of safety and risk, quality has to be everybody's responsibility. And that was a fundamental thing.

And then this next point from Phil Crosby who was one of the leading -- he wrote the book Quality is Free, which was required reading in 1980 at General Motor's, Quality is the result of a carefully constructed cultural environment. And it has to be the fabric of the organization, not part of the fabric.

And so going to the next point. There is a key observation that we all know and why we are all

here. And the first one is that market quality is independent. So all market participants are responsibility. It's not enough to have one leading market participant responsible, very careful, very thorough in terms of their operations, education and process maturity, because you are completely dependent on your other counterparts that you are trading with. You are completely dependent upon the venue that you are trading in, in terms of quality. So the market quality is independent.

And so quality management system standards come in to be when your outcome is based on the quality of your marketplace, yet you're not in control of all of the forces that are involved in that marketplace. The question is, are you willing to vouch for and guarantee your counterparts quality. And the answer is no one can do that. That's the role of the quality management system standard and I'll give some examples here in a moment.

The other important aspect of a quality management systems standard, which I'm very pleased to say has really aligned itself well with what the CFTC has done as opposed to other agencies, and

that's its principle base. It focuses on what you should be and it's not interested in the how. These are the areas you need to know, address, control, and consider to build -- have a quality outcome, so it's outcome based.

So why should we -- the industry we are in is a very independent industry, we have issues of quality, market integrity and perceptions and a quality management system standard has been used to other industries can address that.

And so I want to talk about some lessons that we've learned from other industries and I'm going to give three examples and then make one last point that brings it home to the futures market. The first one, if you look at global marketplace where any market is faced with multiple regulatory regimes, and one of those areas is in the environmental standards.

You're faced with -- if you're a manufacturer of any size right now, you're faced with multiple regulatory machines on a global basis. A management standard called ISO 14000 was created to address this. That provides one basic framework globally that you can work to, that you can use, that

regulators can refer to and use as information in their policy making and decision making and you, as the market participant in the global markets, can have some reliance and some certainty and also some efficiencies, by knowing that there is an independent standard that is globally accepted and recognized, regardless of what multiple regulatory regime you are following.

So that's one example of where the standards have been used very successfully to promote a set of outcomes, but do it in an efficient way that a global firm can respond to and manage.

The second one is less in terms of market perceptions. The behavior of any market participant has an impact on the entire marketplace. And when there is an issue of a new marketplace or a marketplace that has come under crisis for issues of quality, a quality management systems standard can be used by the industry itself to actually inform and insure that all market participants are conforming to quality expectations.

And as an example of that is the bio fuel industry. When the bio fuel industry was started in the United States, they actually -- they created a

quality management system for bio fuel manufacturers so they could guarantee the quality outcome across all market participants to build up the quality of the market and the perception of the market in the consumer marketplace. That was the second example.

And then the third point I want to make is that there is an advantage to the industry taking responsibility and building a standard. Not only can it be used for self assessment, but can withstand scrutiny in an independent audit. And then alternatives imposed by regulatory regime tend to not engage the full organization and they actually have a limited, in terms of the sort of the positive outcome.

And I can give you have an example of an industry that actually adopted very, very rigorous standards, unfortunately, as many of you can testify to as well and that's the aerospace industry, the AS 9000 standards. And it works very efficiently in the industry, worked very successfully in forcing standards throughout the supply chain by the manufacturers themselves.

Now, an example where the industry sort of respond and it resulted in a high amount of

regulations and quite a high degree of obtrusiveness in the process was in the medical supply industry where the FDA basically imposes quality management systems standards by way of regulation. And the difference in terms of cost, in terms of prohibiting market innovation and keeping people from participating, is well demonstrated.

So I think that quality management systems standard can -- has been used across the board to address an industry's specific issues of safety, quality and it's all focused on an independent market.

And there is one last point that I think is important for this conversation, is that how can a firm, and I've been here on LaSalle Street for about 25 years and I can see the evolution of firms, one creator, no testing, all the way up to one of the rigorous and some of the best practices. But how can a firm that is committed to market quality or who are doing the right things exhibit that they are doing the right things and not being reckless, since they are doing the work anyway?

So to put in another way, how could a firm that is committed to market quality, as represented

by an independently approved industry standard that is audible be considered reckless? And I'll leave that as the last point for why the issue should be considered and think about quality management system standards.

And with that I want to introduce an effort that was started originally by some work by Andrew Vega and Ben VanVleet of I.I.T. Both are professors and they both are practitioners in our space. They are not solely academics. And they started with a book called Quality Money Management. And the idea is taking the principles of quality as exhibited in ISO 9001, ISO 9004 and applying it to the entire trading process and looking at quality outcome. And they approached me and how I became involved in this is that through my work in the fixed protocol organization I was elected to be the cochair of the X90 Subcommittee for U.S. Standards.

So the X9 organization represents the U.S. in creating ANSI standards for financial services. We also represent the United States in ISO standards. So when Ben and Andy came to me and said, how can we create a standard? And this was very, very early in 2011 I said, well, I guess you're talking to the

right person.

So the idea here is to create an automated trading standard, quality management systems standard. And the focus is on automated trading, not high frequency trading. Automation in any industry poses new issues that must be addressed. And the ones I'm most interested in are not software change control management, you know, version control, that type of thing, that's the least issue.

The main issue where I think that we have to focus is in the areas of operation and control and setting standards for making sure that systems that are automated can be fully managed. We went through an entire process and statistical process control that led out of the early automation efforts. And we are faced with a similar thing in the industry.

And I'm very pleased that Working Group 3 will be presenting in Slides 7 through 11, a set of operational control issues that I think are really one of the most important, in addition to standard software quality assurance rules.

One thing if you go to any safety or any quality measure, there is nothing you are going to do that is going to be make a perfect system or a

defect free system. You can minimize defects, but more importantly you need to create a culture and environment that actually knows how to respond to these issues and operational controls.

So AT 9000 is a standard being developed right now within the X9 organization, driven by the industry Best Practices Act, which is the guidelines that have been prepared for the creation of a quality management systems standard for automated trading. And it's designed to be built within the ISO 9000/9001 framework, which can be used for both independent audit and self assessment.

And the work that has been done today uses the existing ISO 9000 standards and there is a very high quality standard for software engineering. In addition, this board has worked with the FIA and the FOA has worked very closely with ESMA on their guidelines.

And the timeline as shown here, I won't go through the timeline now, only to say that there are graphs of the standards that are being prepared. And, again, the documents were the ones built by the industry best practices. And I do want to say, to make a very important point to the industry, people

experienced the 9000 and 9001 standards that were participating in the process, actually felt that the FIA documents that were produced were actually over prescriptive and much more greater in detail than what usually are put into ISO 9000 and 9001 standards.

And I always think that's funny because when we first started this, people said 9000 is way too burdensome. Then we start looking we've got the standard work already done and we go on to a further degree of specificity than normally is done. So that's the AT 9000.

Now, importantly I want to switch now and talk about a different topic and that's data issues. And look at, our group started a gap analysis, looking at what information is available in the marketplace that could be used by regulators and other researchers to understand and look at market behavior.

And one of the things that we found ourselves we always felt like we were solving a problem that didn't exist in the futures market. We felt fortunately, for whatever reason, who would ever thought of lack of fungibility was going to lead as

an unintended outcome to market integrity. But in reality the futures markets actually don't have the same problems as the securities market. So we kept having to pull ourselves back and say we are looking at the futures markets, we're not looking at the securities markets.

So the good news is for the futures markets, the SRO's already have a vast majority of data available now and is accessible in some form. So what we've recommended is the CFTC should pursue interest standard data formats and definitions. The current initiative, which is much more complex an order because of the fragmentation and the fact that transactions don't have to occur on the exchange. We can at least use the same industry standard data formats and definitions.

Because one of the points we wanted to make was you cannot analyze effectively a market participant's behavior by only looking at a single market, because bigger firms have to use multiple markets as part of their trading strategy, especially for hedging. And what might look as a questionable behavior in one participant, when you look at their entire behavior across all market

venues, all of a sudden it becomes very understandable in light of their risk management and hedging strategies, so you can't look at a market in isolation.

So the other recommendation we wanted to make was similar to what we are doing with FINRA now is that the fix standard actually provides data definitions and a very simple flexible data model that's widely adopted.

In terms of the data, I'm not talking about data formatting and messaging, I'm talking about just the data items in the definition. And we had a very successful experience working closely with the CFTC through the FIA, going back to 1999, the original technical advisory committee on standards.

So real quick I want to jump over and talk about something very important. So looking at market behavior across markets, but when we do that we are faced immediately with error measurement and recording issues. One of the key issues here is that times right now are actually captured largely in milliseconds. And milliseconds are not an acceptable resolution to really understanding market participant behavior. You really need to catch, at

a minimum, a microsecond and the advanced firm are starting to try to measure at nanoseconds.

The other thing is that when you start to look at behavior across markets, you need to understand that there is no way, given the current technology, even if you go to the most advanced forms of time clock synchronization where you can effectively get an order causal series of events. So there is limited analyses that can take place because of existing time measurement errors and the rift between the computer system.

The last picture here I'll just go through briefly is the audit trail data model that we put together to try to understand the market. And you can really see, there are a buildup of consolidated source of data that we analyzed. There are entities, market infrastructure, market behaviors that all have to be pulled together from which you can derive some very valuable data and measurements which we've listed some of those.

And we believe most of this date now is available at some form or another at the SRO's and that the futures industries, at least the current system, whereby the CFTC and others are able to ask

the SRO's to produce information on an as-needed basis, I think has served the markets well and we question whether we need to invest in some larger infrastructure, when we don't have the same issue that we have to face in the securities markets. So that's all we have now and I turn it back over to you, Commissioner. Thank you for your time today.

CHAIRMAN O'MALIA: Thank you, very much.

MR. PAUL KEPES: I would like to thank my colleagues here for their hard work. Also for the burden of presenting this morning which is never as easy as you can think it may be. Just to recognize, as Greg did in his presentation, that we too have worked in a democratic process and used the diversity of thought within the marketplace, which I think is a good thing and it really helps sharpen our assumptions and leap to good conclusions and I would just mention a couple comments.

You know, one, we presented two papers today. We recognize there are other papers out there that may not share some of the generosity or optimism as these papers.

And just lastly, with respect to the study, it largely relates to CBT, computer-based trading

and suggest that we think of that largely analogous to algorithmic trading. And just recognize the distinction between computer-based trading and high frequency trading, they are not synonymous.

Some from the computer based trading may not necessarily ascribe to high frequency trading, as Greg pointed out, being a smaller subset of the large automated trading.

CHAIRMAN O'MALIA: I'm glad you raised that point and I had a question on market participant quality. Chris, on Slide 8 I think a lot of people are talking about quality. And a lot of fundamental traders are trying to understand and have complained why are the markets changing in quality or the liquidity or the size or the speed.

Do these -- you lay out the principles on market quality on Page 8 and then you reference the Norden study and it's a majority of HFT volume submission. Did this study look at market quality or the factors submission or is that a direct correlation here that we are talking about or are they disconnected?

MR. CHRIS LORENZEN: The reason that we pulled the Hagstromer and Norden paper was one of

the things that we were asked to do as the working group was to take a look at the different types of strategies the HFT involves. And in our June 20th presence I think we illustrated common trading activities such as market making, as well as some of the potential harmful strategies, such as spoofing and so forth.

So we thought it would be interesting to look at a study that really looked at high frequency trading and tried to break down how much of the HFT activity is actually good and how much may not be good. And what the study basically showed was that the majority of all HFT volume and more than 80 percent of limit order submissions was related to market making.

So I think everybody can agree that market making is very helpful to the market. So thus, what we are trying to illustrate is if there are policies that are going to be focused on potentially reducing order-to-cancel ratios or composing minimum time frames that orders have to sit in the market, ultimately they are going to affect market makers the most.

So I guess if there is any policies that are

going to be targeted towards harmful strategies, but ultimately are going to hit all the HFT, we need to be aware of the consequences that lie there.

CHAIRMAN O'MALIA: Let me see if I can be clear, I guess. Does this study validate that market making can prove all four of these bullet points? I'm not sure, not having read the study, it goes from one slide that says these are the qualities, does the Hagstomer Norden study actually -- whatever they look, does that hit all four of these strategies?

MR. CHRIS LORENZEN: It does not. These were bullet points that we thought would be helpful for everyone to look at to help identify, you know, good behaviors in the market or things that are going to benefit, provide benefits in the overall market not lower market quality.

MR. JIM NORTHEY: So one of the first things we did after you appointed us is we went back and we were asked to take a look at clause D that came out of Working Group 1. So we spent a lot of time and we were not really making much progress in terms of trying to vet what is HFT, who falls into this category.

Then Jorge just asked a simple off the cuff question, as he often does. He just said, well, could we define what a quality market participant is? Which just inverts the question. And then all of us instantly said, yeah, I think we could come up with a definition and a measure that would involve a very specific instrument created, an exchange that might have quality characteristics or desired outcomes than another.

But it seemed to be a better approach to resolve this issue if you define and you can agree on what quality market participation is could you measure it. And then could you then either by way of relative rankings or some other mechanism, rank participants in terms of their volume market.

And then you are looking at outcomes. You don't care how they do it, if the firm does it by high frequency trading, so be it. It doesn't matter. And now comes what's important, it seemed an easier approach to manage quality market participation as opposed to making this definition of HFT, which would, you know, could in its worse case be getting people arguing, well, I'm actually only 49 .93 percent of the market so I don't really

quality as an HFT firm.

So we thought the predominant thing we wanted to bring back to the Technical Advisory Committee is focus on quality market participation and many other things take care of itself.

CHAIRMAN O'MALIA: Thanks, Jim.

MR. RICHARD GORELICK: This is actually the part of the presentation that I wanted to focus on a little bit as well. So thanks again for going through. There are a lot of things that we know and are sort of a valuable contribution to the discussion.

I do have some concerns, however, about this whole idea of trying to identify market participant quality in a very general sense. I certainly agree that it's essential for regulators in markets to identify abusive behavior, to identify manipulative behaviors and even to identify wasteful behaviors like quoting repeatedly far away from inside the book in ways that don't contribute to the market quality.

But I'm very concerned about this that we can pick strategies that we like and strategies that we don't like and narrowly define them in ways where

we're supporting some and hampering others. I think what is really essential to a market working well is diversity of strategy and to have a very healthy broad ecosystem where short of market abuse or waste, people are really allowed to find out what works for them.

And while you focused on a good paper, the Hagstromer and Norden paper, there are also a lot of other papers, sort of general economic literature, that looks at the value of arbitrage, for example. Arbitrage is widely understood to be a very beneficial feature in markets.

And one I'll highlight is Hendershot and Munior (phonetic) paper that came out last year that looks versatility on the NASDAQ, what the NASDAQ data said. And what they focused in on, they didn't look at strategy types, so to speak, but they did look at order types. And they looked at resting orders versus spread crossing market orders.

And what they determined there was that it's actually the marketable orders, rather than the resting orders that contributed most. And so really I think it's sort of a fools errand to try to go deeply into strategy types and picking winners and

losers and finding some that we like and some that we don't like. I think it's much better off to laser focus on abusive strategies, manipulative strategies. Make sure we can identify those, eliminate those from the markets.

If they are wasteful behaviors that we want to target, we target those. But generally provide a healthy ecosystem where different people with different ideas about how they want to trade is to do so in a way that contributes to overall market quality.

MR. PAUL KEPES: I think your comments are well taken. I also think that it's not as straightforward as you might suggest these two ideas. In other words, you recognize and make comments that we want to get rid of abuse and maybe we want to get rid of wasteful activity. And also we shouldn't actually pick on individual strategies and make decisions on individual strategies.

I agree with you, to celebrate diversity of activities and how they play a role is -- a lot of our presentation is about the coalescence of different forces. When we think of the subject of waste, for example, it's a very interesting

question. For example, liquidity -- volume must accompany in providing liquidity, but all volume doesn't necessarily mean liquidity.

So Jim here can go in tomorrow morning when the market opens, we will just trade back and forth a million shares of such and such all day long at the same price and we set all the exchange records, we would hardly hail ourselves as being liquidity champions. In a sense that would be -- you raise sort of wasteful behavior. We could crack down at that. But we need to take a look at that activity.

We need to make informed opinions about is there anything about this behavior activity that can be construed as abusive, harmful, destructive to the marketplace. Or is there any finer filters or anything about that is just wasteful or nonproductive.

And I think one of the key elements here is that liquidity, I would hope, and I know that it's not a position that is certainly unique, that liquidity must relate to the transference of risk. Somewhere in there, given my example again, there is no transference, something is taking place. I would further hold the position that there is some really

tough things and some really complex things to be thinking about because as hold times, for example, go to zero, I think there is a strong correlation to the transference of risk goes to zero.

I think as the minimum duration on an order goes to zero, if an order is out there for a month, a day, a second, a micro second I don't see these as equivalent ideas.

There is a correlation, there is a correlative role to its service that it provides with liquidity. And so it's important for us and so in a sense I'm agreeing with you that I do think this is of strong merit to look at potential abuse, also look at potential wastes. I just don't see how we can also say we mutually hold the position that all activities should be celebrated for diversity.

MR. ANDREI KIRILENKO: I have a question. I'm really quite intrigued and I think probably a lot of overlap in my mind about something that you both suggested. And that is Group 1 and those in Group 1 and Group 2, seem to suggest some sort of public reporting on measures of market activity and measures of market quality.

And that reminds required market centers to

publish monthly on their websites measures of market quality by five different order types. And subsequently there were a couple of studies that those that measures of market quality have actually improved because the public is benefiting from observing and being aware that the execution is taking place.

Do you suggest sort of something broader than execution perhaps, measures of market activity. Do you think it would be useful to sort of consider publishing periodically, say on a monthly basis or quarterly basis, whatever it is you decide is useful, measures of activity that relate to HFT type of trading in work types for different sizes?

And for Group 2, do you think it would be useful to include those measures in market quality in there, market activity -- not all HFT are going to be related to market quality and it could also, by the way, lead to a direct empirical test of whether or not high frequency trading includes market quality, because that would be sort of directly testable, to see measure of high frequency trading as described in Group 1 and measures of market quality go up and the question is resolved.

MR. COLIN CLARK: My first comment would be then why limit it to just HFT? I think to the extent that you have more broad disclosure of statistics --

MR. ANDREI KIRILENKO: For example, not just for HFT, but you could measure cancel-to-fill.

MR. COLIN CLARK: Sure, yeah, I think there potentially -- I would have to think about it a little bit more, but there could be some merit to that, again, more broadly across all participants. Certainly you alluded to, with the markets, there are disclosures of that nature.

I would say that one of the issues and where the breakdown is is the lack consistency of the data. It does need to be very specifically defined and implemented properly across firms. I think that one of the worries with this data is it, you know, one data point may tell one story, another data point could tell another story. Sometimes there is a potential mixed message in some of that information.

MR. GREG WOOD: I think you would have to average it out so, you know, you also remove the distribution in terms of types of activity. I don't

know if it's possible to measure, particularly, high frequency trading. To the point that I was making earlier, that some changes identified as sort of the automated trading systems, I think that would be a very interesting measure to see across all market basis, particularly within the futures markets.

I think the trade cancellation ratios would, again, be very interesting to get a perspective on how particular markets work, for example. Transparency can be useful to market participants.

MR. CLIFF LEWIS: There is -- one thing that is interesting that is going on right now and may be something worth reporting on later, would be different exchanges are taking -- distribution platforms are taking radically different approaches to kind of throttle high frequency traders.

One extreme you have a dealer oriented platform, they can produce all sorts of dollars, all the risks that we discussed would be included and that we didn't include. At the same time there is sort of an ecology of others where there are no restrictions whatsoever. I mean, and to my way of thinking, obviously, a kind of Darwinian approach to seeing who wins is probably better than thinking

that regulators can predict who going to be successful. Not totally applicable to the futures world because of clearing, not at all applicable to the lawyer invented fantasies of the SEC best national market system, which has nothing do with science, it's just the way a GS 13 thinks of the world.

But in futures I would hope we could continue to err on the side of competition and allow the exchanges to decide fundamentally how they charge because really the issue here, as a number of people have alluded to, the cost of running a platform is really necessary throughput, not matches. You get paid when orders match.

So there is no fundamental disincentive for the exchange to get it wrong because the guys optimizing the technology know more about it than we are going to go, so them have a stake in deciding at what point they are going to self optimize. Now, in the CME's product, there are huge variances in different product sets between the talk to ticket ratio, if you will, of how many matches they get to charge for versus how many messages they are carrying for.

They have to take steps to throttle any of these things. And you can throttle and say, hey, you can only have this ratio, or I would say, better, you pay more if you go that way.

Now some cases exchanges may get that exactly wrong, you know, by subsidizing through volume discounts or special market making programs. But, again, I think that's really -- as long as it is a relevantly competitive environment, I don't see really the harm of it and I don't really see the ability to get in front of it.

And most of these distinctions in terms of market abuse, well, is it more abusive when a buy-side algorithm goes nuts and moves the market than if a high frequency trader does? No, absolutely not. In fact, in some ways the buy-side algorithms are carefully extruded from high frequency trade would probably be a far more damaging example of what the public and others would be worried about than anything that has happened with true high frequency.

One last point, I think the CFTC has a responsibility to take a look at a lot of the rules infrastructure and it's going off principle's based

approach. But so much of the regulatory overview is still mired in open outcry trading, that it's just remarkable.

So one thing I think we would propose that we have another task force that go through the opposite end of all this and identify all of the complete garbage that I think that confuses, actually, legitimate discussions about automated trading because you are trying to apply, and SEF rules are the best examples of this, we just cut and paste from the designated market contract rules as if it was 1890 and Bryan is there with a chalkboard writing prices on the wall and guys are yelling and screaming at each other on the floor rather than recognizing that we've gone over to an electronic trading system.

One last point, the other thing I would say is that it's a little bit annoying to me, there are a set of abuses that you could think of, none of which are, of course, mentioned, but I'll give one that I won't mention any names, but has occurred in the past, which is what is obviously preferential access to certain market participants from a technology perspective. Now we accept that it's

legitimate to charge for co-lo, and when you get to micro second level latency like on my system or other systems, that means that being a mile way from the matching engine is too far. You are dealing with the speed of light as your latency.

I think issues like that would be much more legitimate than the technical issues. Charge what you want, but just make sure there is no hanky panky going on with some of the measurable things that would lead to, you know, unfair advantage to that particular market participant.

Similarly, I could see this in terms of some -- again, this is ancient history, I think there used to be different kind of matching algorithms. And those different kinds of matching algorithms were designed to benefit particular market participants. At that point it wasn't considered a bad thing. Okay, you want to make sure smaller locals have an edge. So the various matching algorithms came up.

Again, I think the exchange should be free to do that all that they want. But again, I think it's worth considering that and given the big push that all the exchanges are making towards co-lo, I think

that is a really big deal, that there ought to be, just so long as the vice chairman doesn't get a cheaper price closer to the rack that some goof coming in from the street.

MR. GEORGE PULLEN: I'll take it strictly from a staff point of view. In so much as the staff resources and the Commission might be devoted to measuring CBT or HFT, when you have those numbers that are in house, we're not saying that these are either good or bad. We're saying that -- in your definition we can have measurements, percentages and we can publish those measurements. And in so much as we have review of those numbers, I don't see any harm in giving those numbers.

MR. ANDREI KIRILENKO: I was much more thinking along the lines of ECM, not CFTC. And they would be costly indeed, but I do wonder too whether or not you think it would be, based on the abuse and your discussion of market quality and your discussion of various measures, various objective measures, if you came up with such a thing that it would be beneficial to publish and see that.

CHAIRMAN O'MALIA: Keith, Larry, Greg.

MR. KEITH FISHE: I think one unexpected

benefit that would be obtained from publishing additional numbers is that you sort of standardize the nomenclature of the data that you are observing. And the papers that Richard mentioned and maybe Paul mentioned, is that there is a wide variety of definitions that is then used throughout those papers and optimal measurements and optimal research.

So if that effort to publish information helps focus people on common ways of looking at things, if you further research it, that makes it easily comparable and useful.

I just want to make one comment on co-location. I think one of the nice things about co-location is that it has made it a more even playing field versus proximity and location. Opportunities that existed, especially with CME, we really appreciate what they do with co-location, because it really helped even everything out.

MR. GREG WOOD: The thing I was going to add there is I think one of the biggest concerns for market participants is this perception of toxicity within the market. So toxicity is how am I going to get a price that I see. Is there the same depth in

the market that I see on the screen. And one of the concerns, I think quite a lot is, people feel there is a lot of toxicity in certain markets.

I would hope that publishing these metrics will obviously present the quote to the market. And if you see that the majority of do come in certain ways, then I think that will ultimately make you feel more comfortable in actually trading within that marketplace.

If it does the adverse, then I think it would affect the way the market works and then that market has to change the way it actually works.

MR. RICHARD GORELICK: I think I want to lend a little support to Andre's idea. I think that the idea of having exchanges publish information about market quality in that you are, say on an empirical basis, on a continued basis, informed by what are the metrics that we think are important, I think that could go a long way to improving the quality of discussion that we have about market structure and market quality.

And I think one of the areas that I found really lacking over the last few years in a lot of discussions is evidence. There is a lot of

anecdotal discussion about how people feel about markets and it's hard to respond to that in a policy way. So we can start measuring things more and making those measurements more readily available it would lead to a more informed, thoughtful discussion.

MR. BRYAN DURKIN: I think there has been a lot of diverging views of what we are actually speaking of in the context of market quality and people have different perspectives and markets behave differently. So we could spend quite a bit of time having a very thoughtful debate in terms of what that all constitutes.

I just want to be a little careful that when we walk out of here, I don't believe we've defined what that is.

Now, to your question, though, Commissioner, in terms of the information that we have and what's at our disposal, I mean, we have, you know, very, I think, very granular information in the context of obviously who is in our markets, the messaging that is coming in down at the participant level, what the order-to-trade ratios are, what constitutes actually cancels, adjustments to orders, we categorize all of

that information.

We also look at the overall performance of whether or not orders have been resting in the book, plus the frequency of that participant's behavior in terms of being what we would define as an active versus a passive participant. So we've come a long way, I think internally, in terms of how we look at that information.

That information is then fed surveillance activity in the context of taking all of that audit trail information and constructing people's behavior and looking for things that we would consider not to be conducive to an efficient operating market. We have rules that we enforce in the context of how participants are behaving and we take appropriate action accordingly. But in terms of the question that there is a granular information, that is not published.

I would have to give that one a bit more thought. It's not something I can just respond to. You can say I'll publish it, but there is a lot associated with what is it specifically that we are asking to publish. So we certainly would be open to having a further discussion on it.

MR. RICHARD GORELICK: I think Bryan could identify a very good point. There are at this table, I think, lots of different ideas. There is certainly, in the academic literature, lots of different ways of measuring it. And to Keith's point, I think we can tell the academics to stop measuring it however they want to measure and they are going to keep doing that and we should encourage that.

But, you know, measurements of market impact, quoted depth, there are lots of me trick like that that don't measure market participant quality and measure how the market as a whole is functioning.

I imagine with the number of discussions and with the number of sort of thoughtful proposals, we could get to a point where there are some that wouldn't reveal anything confidential or a particular trading strategy, that would just lend us some evidence is the market getting better or getting worse.

MR. BRYAN DURKIN: And we would certainly like to participate in that.

MR. RICHARD GORELICK: The CME has published a number of reports in this area that are very

helpful.

CHAIRMAN O'MALIA: If there is nothing further, this is a good time, let's take a break here. Let's come back 10 minutes, so 11:20.

(Break taken.)

CHAIRMAN O'MALIA: Next is Working Group 3.

MR. DEAN PAYTON: Thank you, Commissioner O'Malia. Working Group 3 focused on three things that we are going to talk about today. One has to do with tagging registration. The second thing we want to talk about is controls and monitoring and lastly we are talking about supervision and oversight.

Our group was made up of a number of folks, a couple who couldn't be here with us today. One is Robert Hegarty from Thomson Reuters and Mike Wassersug from ICE. To my left is Frank Perry from Newedge. To my right is Ed Dasso from the NFA. And again I'm Dean Payton from CME Group. We also worked with Jeremy Cusimano and Richard Haynes from CFTC.

So with that, I will turn it over to Frank to talk about tagging and registration.

MR. FRANK PERRY: Thanks, Dean. As Dean just

noted in these initial slides Working Group 3 attempted to address in detail current market surveillance capabilities and to ultimately tackle a number of fundamental registration questions as they relate to automated trading systems, high frequency traders and algorithm trading activity.

As standard electronic order message, SRO's capture transaction level details and common identifying attributes, including clearing firm, underlying trading firm, session ID, center's location, the operator ID, ATS flag, underlying account and ultimately give-up firm.

Current tag attributes allow the SRO's to distinguish between ATS and non-ATS trading activity. Identify the individuals operating the the ATS. Identify the owners of that ATS and actively measure trading volume and messaging levels by not only the trading firm but at the account level and ultimately the operator level.

This transactional level data allows the SRO's to capture highly granular trade data, including messaging ratios, number of transactions, frequency, timing and account reference details. This information allows the SRO's to create

comprehensive electronic audit trails for market activity and overall audit book data. SRO's also are able to use this source data to enrich internal programs and expand our internal surveillance operations.

As detailed, the source trade and reference information currently captured provides the SRO's with the audit trail reference data necessary to support effective monitoring of ATS activity.

Adding an element of ATS strategy type identifiers will not add regulatory value. ATS activity involves substantial variability and overlap which creates definitional ambiguity.

ATS activity at its base involves routine strategy evolution and modification. Finally, at the end of the day, the order and transactional activity are transparent to the SRO. In short, the data is there for the SRO.

In the event of a potential problem being identified, regulators have the ability to request detailed information regarding strategy, inputs, design of the ATS, information regarding controls employed, testing conducted and supervision protocols.

As a clearing firm we routinely receive regulatory inquiries relating to trading activity for both non-ATS and ATS activity. Some of the requests are more vague, some are more complex requesting specific information from the underlying customer relating to the type of activity that they are engage in and any types of questions or concerns raised at the regulatory level.

Working Group One was really tasked with a fairly complex task of defining high frequency trading. There were a number of comments earlier, if you asked 10 people both within the industry or within the public to define high frequency trading, you'll get a myriad of answers and opinions.

On the back of the work that Working Group 1 completed, Working Group 3 raised the question, would the registration of AFT's add value or accountability from a regulatory or surveillance perspective. The difficulty and complexity that Group 1 faced in simply drafting a working definition of HFT underscores a number of conversations that we were engaged in Working Group 3.

Ultimately, after a significant back and

forth debate amongst the group, you know, we came up -- we determined that registration required regulators to make static and arbitrary distinctions across a significant horizon of metrics. Most notably distinctions in degrees of automation, latency, messaging ratios and overall volumes. At the end of the day, where do you draw the line in terms of who needs to register and who does not.

Market participants are readily identified and differentiated using current reference data. SRO's are able to distinguish ATS from non-ATS activity. Distinguish user's type of connectivity, be it direct market access or sponsored access through a clearing firm. And ultimately identify high messaging ratio and volume participant at various levels from the firm to the account to the operator, over any instrument, over any period of time.

SRO's already maintain identifying reference data regarding high messaging and volume participants in the marketplace. To quote Robert and Dean in our last meeting, we know who they are.

With the proposed -- CFTC is further poised to capture reference data for active accounts on

DCM's and SEF's.

Ultimately, market stability and integrity considerations and concerns are not exclusive to high frequency trade. Market use and disruption can come from any user or participant in the marketplace.

Ultimately, it's unclear what additional information surveillance or analytical objectives that the registration of HFTs achieves relative to the current info and capabilities afforded to the SRO's and the regulators.

The next slide covers two fairly complicated questions that were discussed at Working Group level. First, should algorithms being registered? There is a proliferation of algo activity ranging from the simple to the extremely complex in today's marketplace. These algorithms and their inputs and parameters have all been changed frequently.

It is difficult to define what constitutes a unique algo. And further, as Group 1 noted, algos does not necessarily equate to high frequency trading. Ultimately, the group found no empirical basis to support strategy based registration.

Second question related to should these algos

be audited by the SRO at the regulatory or even at the clearing firm level. In the debates and the discussions that we really came to the conclusion that this represented a bit of a Pandora's box. The number of algos employed across the marketplace is enormous. Attempting to audit at the SRO or the regulatory level really ultimately represents a inefficient use of regulatory resources.

There is ultimately a lack of expertise to assess or evaluate the number of algos at the complex level with which they operate currently at in the marketplace.

Additionally it's noted that the cost of this endeavor would be enormous and would be resources better focused in other areas of surveillance. At the end of the day, the entity employing the algo should ultimately be responsible for the appropriate evaluation and testing of their system.

MR. DEAN PAYTON: Thanks, Frank. I'm going to talk a little bit about controls in an automated trading environment. Now, obviously the focus of the Technology Advisory Committee is fundamentally about how we insure safety and fairness of our markets in this industry. It's important, though,

that when we talk about that, that we put things in context.

And you know, again, going back to some of the discussion from this morning, namely that most of the empirical research that has been done has demonstrated that automated trading and high frequency trading have really improved market quality.

And we had some debate earlier this morning about what market quality really means. But if you look across those papers and obviously the Forsyth project, I think, looked at more than 50 peer review papers, a lot of those metrics are pretty fundamental in terms of looking at the bid-ask spread, the depth, the transaction costs and the pricing efficiencies across markets in terms of how they measure market quality.

And generally speaking, although not universally, those studies have demonstrated that the automation that was brought to the marketplace through high frequency trading as a part of that, has been productive to the market. And at the same time, when you think about it from a context of buy-side market participants, it's given them new

opportunities and new methodologies to optimize their execution, improve their speed, improve their efficiency with the way they interact with the marketplace.

So when we think about controls, all right, we need to keep the context of understanding that what we need to do doesn't impact or impede the benefits that have been brought to the market by the advent of automation and technology.

That being said, I think everybody recognizes that this new framework for the marketplace that has evolved also comes with new risks. And I think that the most significant of these, in terms of market confidence, is really the risk of disruptions in the marketplace.

And I think broadly, if you think about where those disruptions evolve from in the marketplace, they primary come from two areas. One has to do with some type of error, whether it's a software error, a human error, some kind of malfunction in the marketplace, could be on the trading venue side.

The other place where we see those disruptions are in cases of situations where we have transitory liquidity dips in the marketplace. And

given the speed with which the market operates today, we can see those markets move very rapidly where you have those episodic liquidity vacuums.

In either case, those two situations, you can't legislate them or regulate them away. There are errors that are going to lead to transitory liquidity dips in the marketplace. The question is, what are the types of controls that we can put in place; what are the kinds of things that we can do as an industry from a quality management standpoint to mitigate the likelihood of those errors occurring and the magnitude of those errors, when they do occur.

So following on a little bit of what Working Group 2 was talking about and specifically the technology that is at the core of our markets and that we've come to rely upon to a significant degree in the way that we do what we do in our industry, really comes down to the fact that everything really needs to be engineered for safety. And that fundamentally requires that there be robust controls in place, as Richard said earlier, at all levels of market infrastructure.

It's only by doing it that way that we,

again, are going to mitigate the risk of there being a single point of failure and those redundancies are what helps protect the market. And behind the scenes, I think market participants know that those redundancies are critical and have worked time and again in the marketplace to protect the market from incidents that, you know, don't make the front page of the Wall Street Journal.

The secondary consideration that we talked about and we are not going to spend a lot of time on today, is associated with messaging issues around the IBN trading. And from our perspective, that's really more about efficiency than it is about safety.

And I think that obviously from a marketplace perspective, we are certainly interested in insuring that the negative externalities that come from inefficient, poor quality messaging are properly addressed. And by doing that we will obviously improve the market perception of market quality overall and perhaps the reality of market quality. But also the experience of market participants.

Again, the key there is that whatever we do from a messaging perspective, we need to be able to

do that without compromising the liquidity that the high frequency traders and automated traders are bringing to the market.

When we talk about controls, I think that we have to understand that a lot of things take place before we actually get to the deployment of software in the market environment and before we turn, on at this point, trading venues to make trades.

There has been, obviously, a lot of dialogue about things that need to happen, right, before we deploy systems into a production environment, even in our industry, outside our industry. There has been a lot of work on best practices. So we highlighted some of the issues here in terms of things that folks need to think about.

So obviously there needs to be appropriate vetting of the design of new systems and functionality, both at the firm level and the trading venue level. With appropriate management controls to assure peer understanding of how the systems are intended to operate and the relevant risks that must be considered and managed.

As Jim and Chris were talking about earlier, you know, the concept of quality begins at that very

beginning stage of the process. And has to be -- the concept of risk and the impact on the marketplace has to be something that is thought about from the genesis of the work that's being done.

Secondly, protocols consistent with best practice standards for software development and architecture need be employed. Again, that's true whether it's a new training algorithm, new risk management of software or new functionality that is being employed at the exchange level.

There is lots of different ways to do that and as Working Group 2 talked about, the idea is not to be descriptive and say that certain types of software practices, development practices have to be followed, point is that you have one and that you execute it well through that process.

Clearly, from my position as a regulator, we see where issues occur and that is where you have ad hoc development approaches. And I think that what this whole group is about and some of what the X9 working group is trying to deal with is those kind of ad hoc approaches might seem fine within the prism of a particular individual participant in the

marketplace, but there has to be an appreciation that each individual participant has an impact on the overall market stability and integrity.

Third, there has been a lot of talk about testing of things that -- that I mentioned a little bit earlier that the Commission is working on a concept release. And that part of that is going to cover some of the testing considerations.

Again, there is protocols and best practices for the way that people ought to think about testing and it's certainly vital that be done prior to the time that systems are deployed into production. I think we all know that. You know the best test strips are not necessarily a panacea. We can't test for every conceivable condition, but, you know, certainly an effective testing protocol is going to address a lot of quality issues before we get to the point where it's a problem in the marketplace.

And then finally there needs to be a deployment strategy that, again, takes proper account of the risks of putting a new type of system or functionality into the production environment. Understanding, again, the impacts that these things can have on the marketplace.

It is not just the market that you are introducing the system into that it impacts, but obviously we have a lot of interconnected markets in global financial infrastructure that we operate today and those risks need to be understood.

And really what that means is as you go to deployment, having completed the testing that you've done, is to really think about the scale on which you are introducing that software initially, the level of monitoring that needs to be put in place as that's introduced and make sure that, you know, things progress at a level that we are comfortable with.

The other piece that has been talked about a lot is conformance testing. And the idea that different elements in the supply chain. I think as Frank pointed out earlier, it's our working group's position that fundamentally the testing of specific algorithms or trading in the marketplace should be the responsibility of the parties who are introducing those to the marketplace.

Obviously at the exchange level we actually go through a certain form of testing. CFTC performs regular systems safeguards examinations of the

exchanges and their electronic matching engines that covers a range of issues from functional testing, code production, change management protocols, risk analysis, information security, all those types of things. It's a very thorough review, as Bryan can attest to having been through a few of those.

And, you know, that's, you know, one part of the process. Same way folks who are connecting to the matching engine go through conformance testing at the exchange level and must be certified before they can move their system into production.

And again, that is conformance testing at a relatively higher level where we're looking at the functionality of the system, how it interfaces with the matching engine to make sure that those core functions work appropriately and aren't going to disrupt the market.

That being said, within our group, you know, we recognize that there is, you know, probably more than can be done at the trading venue level to enhance the conformance testing that we do today. To move it somewhat beyond just that core functionality, to focus to a greater degree on risk where we can, at the trading venue level see those

things, all right.

So there is certain types of things that we can test, whether it's something like a kill switch or a graceful disconnect, if the line goes down. You check the functionality around the credit controls.

but there are other things that we are not able to see at the trading venue level that is only going to happen on the front end. And those front end tests, we think, are the responsibility of the firm. And one of the things we considered those trading venues to do as part of their conformance testing is to put a higher burden on market participants is to have them certify that they meet certain standards with respect to risk mitigation controls as a part of their conformance testing and certification process.

Clearing firms, likewise, they are sponsoring access to markets. Also should be required to get conformance certification from their clients if they have conducted the appropriate testing and have appropriate controls in place. And I think that the challenge that we have as an industry, you know, we he spent a lot of time developing best practices,

you know, we have a lot great best practices that have been introduced and those are conforming some of the standards that are being evolved through X9, but the idea is how do we develop industry standards that we can all be confident that will be adhered to in a way that protects the safety and the fairness of the marketplace.

I think we all understand that every one of the participants in our marketplace, you know, appreciate much the consequences of failures in safety, right. I mean, there is obviously representational exposure, there is invariably trading losses associated with that. There is a loss of market confidence that has impact. And then there is legal and regulatory exposure from those same.

So our incentives should be aligned in that context to come up with a set of standards that we can all apply generally and help build confidence in our marketplace.

We put together a table here that outlines what we see as a multi layered portfolio of risk controls, you know, that we've identified as recommended for different parts of the supply chain.

And we believe that if, in fact, these types of controls were implemented and calibrated appropriately, consistently within our industry, that would go a long way toward mitigating the types of risks that we've faced and that we've also seen in the securities industry.

So as the markets and technology have evolved, you know, certainly the sophistication of risk management capabilities have evolved as well. And all of these capabilities that we listed out here on this list today, these all exist in the marketplace.

The question is, how they are calibrated? How are they deployed? And the degree to which they are deployed across the diversity of market participants. When we first started the transition to electronic markets, we realized pretty quickly that we needed to, you know, the fat finger types of controls.

So the ones that you see there at the top of the list, in terms of maximum order size and pre-trade price reasonability, those were quantity errors or and pricing errors that trading vendors sought to avoid in order to mitigate the risk to the

marketplace.

But as the industry evolved, right, we've continued to evolve those risk mitigation tools. And you know, we also realized that the thing that we talked about a little bit earlier in terms of the transitory trading gaps, that those could create problems in the marketplace given the speed with which markets move.

And so out of that recognition and, you know, obviously some incidents that led to that recognition, you know, we developed new tools, right. So we realized that we needed to put protection points on market orders and stop orders, you know. So when we had Flash Crash in our markets on May 6th, we weren't busting trades in the futures industry, because any market order that was entered had a protection point and it was only going to go down so far, a stop order that was triggered that would only let somebody go down so far.

Those protections didn't exist in the securities space and we saw stop prices going to 0 and to $150,000. So those protection points are a critical issue around transitory liquidity gaps. We also took that a step further with things like stop

logic and what ICE has recently innovated this year with their interval of price limits. These are, you know, tools that actually identify a situation in the marketplace, anticipate that transitory liquidity gap and disruption and actually pause the market, right, and allow liquidity to be, you know, stabilitated within the marketplace.

Those are really critical functionalities that help us to protect against the risks that we have and that innovation continues. We've developed credit controls that came into being, you know, late credit controls a couple years back. We've continued to evolve -- evolve those within the marketplace, right, so that the Knight Capital type situations, that's a situation where somebody would have received multiple warnings, right, to block additional orders in the marketplace before those thresholds were reached. And ultimately, you know, the participant who is exceeding those thresholds is blocked from entering anything other than risk producing orders.

So there has been a lot of work on that front. Some of the other highlights there are things like messaging throttles. Again, back in the

older days, you know, somebody would rest an elbow or leave a book on a key and send in thousands of orders into the marketplace. There is a recognition that, you know, we need throttles. The systems need to be able to recognize that, issue warnings and shut down the participation where necessary.

So I think one of the challenges here is that it's really important to point out that all of these things need to be calibrated. So it's always a difficult thing to determine from a trading venue perspective, right, where you draw the line, right, then protecting the marketplace versus interfering in the marketplace.

There is, again, a lot of different positions that exist, a lot of different participants and that's why you need these types of protections at every level of the chain because from the trading venue standpoint we are doing one size fits all for a particular market, whereas trading firms have to understand their strategy that they're deploying, their infrastructure that they're deploying it in and have appropriate controls and security checks in places.

The other thing that's gotten a lot of

attention that I think is important in our industry is the idea of drop copies to support risk management. And that's something that we have in place, these the drop copies are pushed out on a realtime basis when you go to the trading firm, the clearing firm, be fed directly into risk management systems.

Again, you have to have the appropriate risk management protocols in place from a post-trade perspective to make that useful. But I think that the take away from our group is that there is a lot that has evolved in our market, the technology has evolved to make our market safer.

We have to make sure that that technology is being employed consistently across the supply chain within the industry. That it's calibrated in a way that, you know, focuses on market integrity and stability and, you know, with the understanding that we are going to need to continue to innovate.

We know from our discussions in our working group, there are a number of new types of controls that are being developed and we will continue to roll these out and, you know, I think that's part of, you know, the issue that Jim was raising

earlier. He said new prescriptive standards, that's what you are going to get that are potentially going to impede innovation and evolution where you have those prescriptive standards. But because we all have those incentives, we are continuing as an industry to develop new ways to protect.

MR. ED DASSO: Thanks, Dean. I'm going go walk you through the last few slides, supervision, oversight and analysis. Now, the first two bullet points go hand and hand and really what the point that we are trying to make there is that even though we do tag all the SRO's, do tag ATS participants, we do treat all the market participant users equally.

That is, they all the have the ability to influence the market, they all have the ability to cause havoc, they all have the ability to trade appropriately. We don't distinguish through our surveillance. A watch trade is a watch trade, regardless of whether its being done by an ATS or by an actual person. Of course, we tag and that's what we're trying to do with this surveillance for individual SRO's.

Now, data capture and surveillance technology must scale to meet the demands of the markets. What

we're trying to say here is, going back -- I relate it to my history in this industry going back to '96 when I worked for Dean and for Bryan, it was primarily an open outcry market. We looked at broker statements on microfiche.

CME now, of course, is the largest future market and they have the largest technology budget for surveillance. When I worked at ICE a couple years ago, we integrated our surveillance systems for all our SRO's into one because ICE had purchased different exchanges, they had different technology in place.

One of the things we did is the data warehouse spool that we had purchased during my time there in 2010 was 124 times faster than the one that was currently in place at the time. Now, when I came to NFA in 2000, my first go around there, our initial system that we built was to handle 1 to 5 million messaging a day. And how I define messages, of course, is bids and offers and quotes and actual transactions. Well, we've obviously had to upgrade our systems with ATS currently our largest futures client. We process over 60 million messaging on a daily basis. And as I'm sure most of you are aware,

we are going to provide surveillance services swap execution facilities. We have 14 under contract right now.

And that is one of the struggles we have right now is availing our surveillance systems to meet the needs. We have quotes from these markets anywhere from 10,000 messages a day to 200 million messaging. So there is a huge discrepancy on the different amounts and what types of activity ATS will allow on the marketplace. So that's something that we all struggle with and we continue to stay on top of because it does impact performance of the surveillance.

From the day of the Internet we've come to -- you run a query, you go on Google, you find a result in the matters of seconds. It's actually milliseconds, when people run queries from a surveillance systems. Surveillance methods must involve strategies and market structures as well.

You know, of course we still look for the traditional market business, but we are also constantly refining our programs as I mentioned. And one of the ways we do that is through our staffing. The diversity of our regulatory skill

sets must be appropriate for today's highly technical trading environment.

Going back to when I started in the industry, primarily the Board of Trade hired people with financial backgrounds, majors, if you will. And that's still the case, we still have lawyers on staff, we still have people with financial degrees. But my staff right now, for example, there are eight of us. We recently hired three of them that have master's in computer science. And that is completely something that we would never have thought about 15, 16 years ago. We also have an individual that has a master's degree in quantitative mathematics.

The expertise that these people on my staff has is unbelievable. They focus a lot on Excel and developing Macros within Excel and they can program it into different languages. That is not something that historically we had done. Our AF staff, of course, has that at all the SRO's, but we are seeing that more and more within our compliance departments where we have individuals that have some uniqueness within the marketplace.

But we do have, as a mentioned, we do have

our four exceptions that we work for. But really what we're trying to do now on a daily basis is to identify new types of trading systems. And how we do that is from programs that we can build on the fly within Excel or within our own surveillance systems.

Now, the next slide, Slid 14, comprehensive exchange and front-end audit trails. Now, all of us work at the CFTC on our audit trail components. We pointed this out in Slide 4 that there are certain tags that we all have that are identical or that we map to insure that we capture the appropriate audit trail requirements.

I want to point out that all SRO's have the ability to reconstruct the order book down to the microsecond with a simple click of the button. Again, I relate this back to when I first started, it was open outcry. I think I would spend roughly up to half my day on reconstructing the order book through ordering trading cards, through ordering tickets from the desk. Now we have all that integrated within our surveillance system and we can do that within a matter of a simple click of a button.

That data is available on a realtime historical basis. And Globex helped us, Globex control center where they have the ability to go down to the actual participant level and -- on a realtime basis to see who is making the market, who could be disruptive at any point in time.

As I mentioned historically we have that ability, all the SRO's, to reconstruct trading as it occurred, whether it's from a previous day or months at a time.

Our data does support effective surveillance for market abuse. As I mentioned, Slide 4 highlighted the tags that all of us require. There are, of course, many more tags that us as regulatory departments utilize as well. And it's been discussed already, we tag whether an order or a transaction who is passive, who is aggressive on the individual transaction. That goes a long way to identified potential market abuse.

Also, the data supports robust economic analysis. All the SRO's have the ability to analyze the quality of the books, the depth of the markets and stress test. And I know that happens continuously across all the SRO's.

We go to the last slide, cross-market surveillance issues. And we discussed this at the last meeting, there is competition for market structure changes and blurring of lines across asset classes creates greater fragmentation. Now, we don't necessarily see that in futures other than, say, energy products right now with CME and ICE.

But it does appear that we just see this in swap execution facilities. It will be interesting to note, one of the advantages that we have, since we are providing surveillance for most of those market participants, is that we have required them all to use the standardized.

You know, the one thing that we don't have, of course, is the futures transactions that are related. So if someone is going to offset risks that they may have in unsecured future, we would, of course, have that on a daily basis.

But how we bridge that gap is we coordinate together information sharing. Now there are some groups that we mentioned, Forbes, ISG there is a joint compliance committee with YSC. We were actually going to meet today and discuss formalizing an information sharing agreement for all futures

exchanges, as well as exchange swap execution. But of course because of the storm that meeting has been canceled. We are going to meet next week and we will discuss that at that time.

And let's move on to SRO's can surveil in their own markets and as I mentioned, can obtain information regarding activity in other marketplaces. CME and ICE, the energy products together, for example, when I was at ICE, we worked very closely with individuals at CME when we identified the individuals and activities on ICE that we considered problematic and vice versa.

So we would share information or I would ask someone within CME market regulatory to look at someone's activity and let me know if they had any problems with that. When we had an individual, he worked with the CFTC and with CME, to have that person reduce their position not have any disruption occur within the marketplace.

And I think our last bullet point here is the federal regulators with access to data across vendors are basically the best place to focus on cross-market abuses. We developed a report with the CFTC that took us a few years to standardize where

all future exchanges provide their electronic audit trail, that is the trades and the orders related to trades on a daily basis to CFTC.

My department, we have done SEF's, we have done gap analysis and provided our results to the division of market oversight. And we have followed SEF rules and we work with them to provide them the electronic audit-trail for the SEF markets. So currently the CFTC uses the best entity to actually perform the cross-market audit in view of the fact that they have all the data across the markets.

CHAIRMAN O'MALIA: Thank you, guys. Mr. Hehmeyer.

MR. CHRISTOPHER HEHMEYER: I know that we are time pressed and another great report you guys. Quick question, on your control recommendations summary which is on Slide No. 12, about halfway down the sheet, intraday position monitoring, alerting and risk monitoring, and it shows that the market venues do not have that responsibility.

And I'm just curious, what was the committee the working group's feeling behind that?

MR. DEAN PAYTON: The position monitoring, from our perspective, is something that is akin to

another risk function for firms, right. So they, in that maximum position size, for a particular algorithm, particular trader, you know, in Frank's case say clearing firm for a particular client. We do, on our side, actually alert on positions on a realtime basis at the account level within the exchange.

So again, this was a mechanism that we developed, really coming out of a situation where you have a runaway algo trader that had you had a realtime account level position alerting, it would have been something that you would have been able to see and mitigate before it got up to that level.

But in terms of monitoring positions at the account level, we think that that's primarily the responsibility of the trading firm -- of the clearing firm. But it doesn't mean that, you know, if you are a trading firm or market firm you aren't going to utilize that kind of functionality.

MR. CHRISTOPHER HEHMEYER: I certainly accept that it's the trading firm's and the clearing firm's responsibility also and CME has been a leader in this. I just tend to think that all three should be checked, especially cross exchange monitoring of

positions comes into play. The market venues that come in different sizes and shapes should have risk monitoring responsibility. But thank you, good report.

MR. ANDREI KIRILENKO: Thank you also. So we are making a point that algorithms should be up to (inaudible) is that Mr. Rosen and fellow regulators have asked us to (inaudible) in these markets. Is there other reasons for having registered entities? Some would say it is a significant activity that remains outside of the -- conducted. But just because you are not registered in any particular way what is the most, for example, are you registered? Are you registered in any capacity?

MR. RICHARD GORELICK: Pardon me?

MR. ANDREI KIRILENKO: Do you think that given the type of activity and, again, I'm not trying to pick on you, but given the type of activity, do you think that you would like to have some registration that is appropriate for what you do?

MR. RICHARD GORELICK: I think the latter is the word, appropriate for what we do. Currently our understanding of the various categories and issues

isn't something that applies to us. I don't think we have a particular desire to force ourselves into a round peg or a square hole, as the case may be.

MR. ANDREI KIRILENKO: It sounds like the marketplace and practices have evolved.

MR. RICHARD GORELICK: I will note that they are not members of various exchanges that are overseen by the regulatory functions at those exchanges.

MR. DEAN PAYTON: I think part of what we are thinking about integrated in that context is the fact that we are speaking to registration of high frequency traders, right. Which we think is an arbitrary station to begin with.

If you take that high frequency trading definition, you are going to say that this group of individuals needs to be registered, there are other individuals who trade very high volumes and contribute very high messaging, that may not meet that definition. And it's arbitrary from our perspective that those folks shouldn't require registration, right and the other folks should.

From our perspective, if you are going to establish a volume threshold and say that folks who

trade a certain degree of volume, you know, have significant influence in the market, like you're doing with OCR, right, you are going to set a volume threshold and say, anybody who hits this volume threshold over this period of time needs to provide his data to us about who they are and what volume they are trading. Then that's fine from our perspective, there is equity in terms of how you look at that.

When you start singling out the concept of high frequency traders for something like that, that's where we have our issue.

MR. ANDREI KIRILENKO: Do you think from your group's perspective, that would be -- there could be some value in developing a registration category for automated trader or automated broker and trader, similar to -- so that not necessarily should it be specific, but something that becomes the reality of the marketplace?

Because the benefit of registration being, of course, that regulators protect the markets of this particular registered category.

MR. DEAN PAYTON: Again, the only caveat I would add there is there is a determination of the

four broker, four trader type registration that can be deployed, then you need to think about how you're going to do that. But we have folks who are manual traders, right, who, you know, are not exclusively algorithmic who trade very large volumes.

And so the question is going to be, you know, how are you distinguishing who is interfacing with the particular market center that requires registration, what are those criteria? And, you know, it's not clear to me that automation alone from the market safety or market sound perspective is necessarily a sufficient criteria to distinguish.

MR. FRANK PERRY: Just further comment, you just brought up the proprietary principle from an infrequency standpoint or even from an activity. That's a core piece of the model as it relates to they are all costs and so as Richard noted, there are members of the exchange involved with those types of clients, are registered members of the exchange because they bought memberships and the seats and the shares in order to reduce the lowest common denominator for fees.

So generally, at least with CME, those types of clients are already members of the exchange.

MR. ANDREI KIRILENKO: And in the opinion of the working group that is sufficient for the surveillance and analysis and everything else?

MR. DEAN PAYTON: I'm not sure what registration gets us from surveillance and analysis, right. I think, you know, at least as I understood my part of the registration question was we want to know who these folks are, right, or who employs our technology and trading with a high degree of messaging and volume.

I think our argument is that the Commission does know who those folks are. We provide, you know, market participant identifiers to the Commission on a regular basis so that 90 percent of the volume in our markets at CME Group are identified to the Commission. And once the Commission has ownership and control reporting, they'll have even more granular information about all of those market participants.

So the question is, you know, is the cross benefit of the registration and certainly if somebody is going to make an argument that says, look, there are these specific benefits to marketplace safety and reliability by virtue of

registering these participants, you are not going to get an argument from me as a regulator. I just haven't seen, you know, somebody make that case that we get these benefits and the costs resulting from the registration.

CHAIRMAN O'MALIA: Isn't your question about registration all about enforcement? If you register it may be viewed as a shorter trip to pulling books and records, as opposed to a subpoena, which you get the same thing. If this is in place, if these controls are in place, or at least have an overlay, what higher level of regulation will we divine to make them behave better and how do you get to the point where you are getting -- what are you getting for it, besides not going to the Commission for subpoena?

MR. ANDREI KIRILENKO: I think that identifies the changed nature of interactional marketplace in the types of registration categories, what are the types of categories? Maybe some market participants are currently registered may actually wish to be registered. So the registration status, if they tell us that they are operating and nobody knows who they are, they tell you who they are, they

tell you what they're doing, they tell you so that could potentially be -- I'm not suggesting that it's of particular benefit.

MR. CHRISTOPHER HEHMEYER: I was very involved with this rather cumbersome idea to begin with. It's cumbersome just because registration is not regulation. In my experience, of being around floors for 30 years, when it was introduced that NFA had to register floor vendors and floor traders, it gave it gave us a couple of things. It gave NFA and the system access to the data and information of the participants.

Dean's exactly right, it really doesn't do anything with regards to market surveillance of what a floor trader is doing on the floor. The exchanges were regulating that. And if the floor trader or floor broker had the fingerprints and registration and all that information up to date at the NFA, what Dean and the exchanges were going to do didn't really make any difference what the NFA had.

So at the Principals Group a couple of my colleagues there were adamantly opposed to doing this because they thought, why should we do anything. And I said, well, the other big thing,

aside from getting information into the system, and I was of course involved in the NFA saying could you handle this and there are some cumbersome things that need to be changed because it's individual, the rules are written for individuals so all those people that are involved with this know the rules are written for individuals and that has to be changed.

And it's not easy to say, okay, change it to the entity as well as individuals to get the entities registered and then the people registered. But you get them all into the system. So the other big benefit to this is they get to say they're registered. So you get information, you get them into the system, you know who they are. There are some people that like to say, we'll be glad to tell you who we are, so it ends the argument so that they're in the system.

But the exchange isn't really going to run the market surveillance.

MR. STEVE HUMENIK: I think a lot of what we're talking about today, DCM's have the capacity to monitor through their market surveillance department, the sorts of activities that high

frequency traders or anybody could be doing. So the rule books are in place. There are 23 core principles that DCM's are suppose to enforce be in compliance with. I think you see what CME and ICE have done over the years is look to the core principles and say, okay, what makes sense from a market oversight perspective as to what we should be doing.

I think that is the way to address the issue or problem of is it necessary to register people. It just layers on more regulation that's not necessary because we already have DCM responsibilities in the first place to insure the integrity in their markets.

CHAIRMAN O'MALIA: Any of the Principal Trader people here? Principal Trader Group through FIA has put up kind of best practices. What is the adoption rate among PPG members of those proposals?

MR. CHRIS LORENZEN: I'll just say a quick comment. I think the adoption rate, I don't think is really not about an adoption rate. I think that everybody that is involved in FIA PPG already complies or follows all those rules already. Since we basically are trading our own money for the most

part, this controls.

CHAIRMAN O'MALIA: But maybe to the point that Chris raised about you can say you registered, Andrei's point as well, that it does give you that seal of approval, whether that improves your behavior or not.

MR. CHRISTOPHER EDMONDS: But is registration still an approval?

MR. CHRISTOPHER HEHMEYER: It's registration, not regulation. But you can get to them quickly, you can get to people, you can find out who they are. And like with floor traders and floor brokers, it's not usually burdensome on the firms. So it's just a step that has worked well for the floors through the years of getting people registered as to who the principal participants are without going through the extra steps of regulating books and records.

MR. CHRIS LORENZEN: And just a quick comment I'm not against, you know, the registration at all, but I guess I think it's a fair comment to say that the majority of all trading in today's markets is electronic. And that basically affects whether it's a high frequency trading firm or just a regular

trader that opens an account with a brokerage firm and uses a platform such as trading technologies and whether they are clicking or using an auto spreader, ultimately that potentially puts everybody as an algorithmic trader.

MS. SUPURNA VEDBRAT: I would like to thank Working Group 3 for their work, it's a very important part of electronic trading when we look at the common infrastructure, taking a perspective from algorithms that enable electronic trading.

I just wanted to comment on the topic of certification. If you do go down that path and it's going to be very important for the market to have some form of industry standard with certification, whether it's a common algorithm and it would be a good best practice to have some sort of standardization, minimum standardization in the testing and quality assurance testing.

Because often it's in those areas that we may find that there is a weakness in the process of software development. Working with quality management systems statuses, AT 9000, has worked very well in the past. So, you know, that would be very important for my participants if they have to

certify.

The other thing that, you know, I would just like to make a recommendation in the control summary here, what we, you know, there is a lot of intraoperatability and interconnectivity among electronic trading today. So if there was some sort of analysis or controls put in place, like what happens if there is a stress situation to electronic trading, especially when you are using certain rules or where, you know, business as usual the market would function, but if there was increased volatility or some sort of event, electronic trading could come to a standstill.

MR. JOHN LOTHIAN: So my question is, how are you going to get people into the certification process? How do you identify the people that are going to go through those processes? And in particular, when you start to talk about the AT 9000 program, which seemingly would be some kind of an industry supported type of a thing, are you going to register for that program, those standards?

I mean, you know, it's kind of like you go to a website, you need to, before you get inside the website and participate, you need to at least

register on the outside so they can identify you.

So how are we going to identify the people that are going to go through the, whatever the certification, recertification, retesting and then basically participate in the ISO or the 9000 program? And is there a connection, then, between participation in that and the registration issue?

MR. DEAN PAYTON: We don't speak necessarily to the X9 initiative specifically, we just talk about industry standards. First of all, in that context, it is everybody in the supply chain, right. So even in the X9 initiative they are not exclusively looking at trading firms, they are looking at trading venues, they are looking at ISB's, they are looking at trading firms. So everybody has responsibility for quality management in that context.

From a trading venue perspective, the people that we would care about on that same point would be those folks who are connecting to our trading venue and interfacing with our trading venue. The clearing firms are going to have the same issue with respect to their client and the vendors that they work with.

I think that the challenge that we have and this is something that the industry still has to figure out, is how we actually put, you know, these types of standards in place, like where -- how do you hold folks to particular standards. And, you know, first we have to apply the standards and then we have the mechanism for insuring a high level of compliance with those standards. And the X9 initiative is one way to think about that.

MR. GEORGE PULLEN: My question was in reference to your position that you felt that there wasn't tag necessary or registration necessary for registration of HFT. How, other than registration, would that be possible?

MR. DEAN PAYTON: Once you have OCR in place, you will have both the trading activity and the positions of essentially everybody who is meaningful in the marketplace. So on cross markets you will know market participant names, irrespective of whether they are trading on SEF or DCM, you will have all that information and you also have all that position information. So the data is there to conduct that cross market surveillance.

CHAIRMAN O'MALIA: Would and LEI in the

futures space be helpful?

MR. DEAN PAYTON: LEI is broadly equivalent to what we use today as a market participant identifier. So it would basically, for us, it would be redundant essentially.

CHAIRMAN O'MALIA: Because that's bringing the futures and the swaps market and supporting that cross market solution?

MR. DEAN PAYTON: Correct, for the CFTC.

CHAIRMAN O'MALIA: Right. Real quick, Richard, and then we have to go to Working Group 4.

MR. RICHARD GORELICK: Just on the question of principal traders in general and the registration question more broadly, I think my firm and other firms are really interested in making sure that we have markets of the highest integrity in the first place. I think that's the goal that we need to resolve.

In order to get there, I think we need to make very efficient and smart uses of the tools that we have available. I think very powerful tools that are available are the auto trade and the exchange memberships, the DCM memberships that really provide all the identifying requirements you would expect to

see in a registration requirement.

If there is some shortcomings in either one of those I think so we should work first very efficiently and intelligently to fill those gaps, achieve those regulatory objectives.

But short of sort of a real interesting of why we can't do that, it would seem like this idea of going to a formal registration requirement that may be redundant without any additional win to the regulator, isn't the best place to focus on limited regulatory resources when we have this very rich pool of data sets and in exchange memberships.

THE COURT: Let me make one final comment. Obviously this registration thing is very somewhat popular idea, but there are certain members that are probably very favorable to this idea. But I'm really interested, whether it's an LEI or something like that, what is going to get us the greatest benefit from an oversight? This linking markets across is very interesting.

I think we'll come back to this discussion, maybe at the end of the day. We have our fourth panel our 1.74 discussion won't happen today because we don't have the right witnesses here, so let's

think about coming back to some of these discussions at the end of the day. Let's keep going on. Jitesh, I just remind you, you are last before lunch so keep it tight.

MR. JITESH THAKKAR: Commissioner O'Malia. I am Jitesh Thakkar, founder of Edge Financial Technologies on behalf of Working Group 4, many of who were not able to make it because of the weather. I am presenting the results of the discussion of Group 4, risk management and market structure.

This panel was made up of Irene Aldridge, Joel Hasbrouk, Jordan Lea, Michael Mendelson, Peter Reiss and myself from the CFTC. We have Andrei Kirilenko, Richard Haynes and JonMarc Buffa. And we also had contributions from Zach Ziliak who is a former colleague of mine currently an attorney with Mayer Brown, you see him next to me as everybody except for me, could not make it. And also Keith Fishe.

In our group we had agree that a pursuit of a better definition of HFT and the cataloging of various trading strategies appear to be helping the financial community and the public to understand this activity.

Based on the contributions of other working groups and the Technology Advisory Committee, we now have a better understanding of the reliance of both HFT and the large majority of other trading strategies and methods on electronic trading systems.

Several recent trading disruptions, for example Knight Capital and the Flash Crash, have highlighted what is perhaps the largest issue with modern trading methods, which is the possibility that unintended trading destabilizes a market and/or adversely affects many investors or financial institutions.

Therefore, with recent events I spoke of were primarily in the equity markets, it is possible that futures markets could similarly affected by trading errors.

So based on that, the potential for error and abuse by automated trading systems and all trading systems, we feel it is an important issue for regulators and market participants and the public and that these issues are as important as the debates about good or bad high frequency trading strategies. We attempted to analyze these topics

from the point of view of their interaction with market structure.

We considered several issues and I'm going to demonstrate a few of them there. And there is a lot of overlap, so I'm going to go fast through some of the overlap. In particular, I want to explain two points here, information sharing and National Transportation Board style investigative body.

The difference between the two points is information sharing is anonymous sharing of information led by industry participants; whereas the NTSB idea represents an enhanced regulatory audit function, which was something that was debated in our group. But we thought it was important to note.

Many trading error related events are non-catastrophic and remain under reported or at least publicly under reported which makes academic analysis difficult as data remains confidential to a trading entity or to regulators.

What we are saying here is that a lot of basic understanding of common occurring errors remains limited. Do errors tend to be caused by faulty data or faulty code? Or is it by

interactions among strategies, each of which operating as intended, but when working together with other systems causes unanticipated results.

If there were methods to encourage some form of non punitive reporting of errors for cataloguing and analyzing frequency and severity of errors, such information could be helpful to the industry. It's possible that participation may be greater if this task were taken on by industry organizations such as FIA or the NFA or industry web portals.

We had many discussions about pre-trade risk controls and how they are required in U.S. equity markets. It is not fully known and may be difficult to determine how effective these are in reducing the most severe errors in these markets.

Of course, equity markets require limited risk checks for all participants, though brokers are allowed to self check. Recent significant events, such as the Knight Capital, originated in the broker system, possibly indicating that more discussion is needed in regard to best practices for operational risk management

As you mentioned, the futures brokers do not face the 15c3-5 requirements of the equity markets,

though some futures brokers offer their clients risk checking capability.

We're not saying that something similar to 15c3-5 should be introduced in the futures market as it would probably produce another arms race. Neither are we saying that such a requirement is required in the futures markets, in fact it could be detrimental to the futures market with regards to liquidity.

We also want to mention that free trade risk checks are not a cure for all issues and other forms of risk controls must be used alongside, some of which I'll mention in the other slides.

We understand that pre-trade risk controls add latency to trading systems and therefore if they were introduced as a form of regulation, they should be applied equally to all participants. Therefore, many of the group feel that exchange based risk checks applied so that equal latency is introduced for all market participants.

I'm assuming a level playing field, some form of independent risk checking for all participants may reduce potential for regulatory arbitrage and improve the overall effectiveness of pre-trade risk

control requirements.

It is important to note that trading errors can be introduced by algorithm trading systems, but also by electronic order delivery systems that are used by brokers and end investors. Such errors can be fat finger errors or other human errors.

In the case of Knight Capital it was reported that there were procedural errors that impacted the markets as test versions of the software were accidentally released to the markets. Again, I want to go back to this point that this was reported in the media and it was not directly reported from Knight, which goes back to information sharing.

With regard to post-trade risk controls, both CME and ICE provide what is called drop copies of orders. As I mentioned earlier, these are independently employed trading systems that allow firms to calculate near realtime risk on their positions and portfolios.

We want to encourage the use of post-trade risk controls specifically for FCM's and for trading firms, which may actually reduce risk and chance of certain errors. In fact, post-trade risk controls can be linked to trading systems in near realtime

and they do not introduce latency risk controls.

Recently there has been many proposals about regulations that would add latency and create minimum resting times on limit orders. We believe such forms of risk control will get in the way of cross-market efficiency and in fact encourage predatory strategies that profit from artificially created arbitrage conditions.

Such a type of risk control may widen bid/ask spreads as costs are often passed on to the market maker. Further, this type of risk control may increase trading errors and severity of trading errors as the predatory strategies will be encouraged if there is mandatory latency or resting times on limit orders.

Currently, both CME and ICE have cancellation rate policies in place. There has been regulatory talk about limiting cancellation rates and their impact. We believe that limiting cancellation rates at a level that affects participants with extreme cancel-to-fill ratios will have little effect on improving market quality. In fact, it was debated in our group whether such actions would reduce the potential for abusive strategies or not.

Limiting cancel rates at such levels that would affect a significant number of market participants would likely increase bid/ask spread and therefore trading costs for liquidity seekers.

As mentioned before, testing and quality control issues are of utmost importance to microstructure. I want to point out that any changes to market structure, such as new order types, new matching algorithms that affect many market participants should be well tested in a simulation type environment with mock trading sessions.

Although such sessions and practices are employed by exchanges, one further step can be taken where realtime data is disseminated at the same time because such testing is not happening with realtime market data.

Again, as Working Group 3 suggested, we do not belive regulatory certification of algorithms or testing methods can be practical or effective. In fact, real-life condition based scenario and stress testing should be encouraged.

Information sharing. Why is it important? It has been said that, you are smart if you can

learn from our own mistakes. But you are smarter if you can learn from other's mistakes. When trading errors occur generally they are looked down upon and they are shoved under the rug. If there was a way to share information anonymously, it could help others prevent or plan for trading errors. Current communication among market participants is ad hoc and disorganized.

In fact, media reports are often the only place where market participants can glean information about what is going on. Such media reports often do not contain key details for market participants to learn from such trading errors.

It is possible that what we are suggesting, a creation of NTSB-style central hotlines for information sharing and information reporting. We also feel that regulators can do more to encourage information sharing among participants, especially the smaller trading firms.

We do not suggest that regulators punish firms for sharing such information that would lead to overall safety of the markets.

One last comment is that all systems and processes, regulations and markets can be improved.

There is no perfect model, but given many recent issues in trading one thing is clear. Futures market microstructure is fairly healthy compared to the issues in the equity markets have made the differences in structure very evident. Any attempts to improve futures markets should be evidence based and thought through very carefully.

CHAIRMAN O'MALIA: Great, thank you. Now, on this testing of algorithms, on Page 19 of this document you handed out, one of the Commission's own regulations on traders, Part 23.00b9, we have a requirement that says traders are to maintain a compliance with testing and inspection of trade programs. But we never told the market what the standard is. Which, to me, sounds like almost a safe harbor. As long as you test it, you're good.

I think when we talk about Principal Trader's group and you referenced them in the documents, they make some goods recommendations. And I think the uptake on that is largely, and I think you said was largely everybody is doing it.

How do we close that gap? I think there is a lot of opinion about what should be done, but how specific should it be? You are using realtime

market data as opposed to historic market data.

MR. JITESH THAKKAR: I think if there was some form of independent standard that can be used to test against measurement of something. In my strategy, I've tested against historical data and again, 15 of such conditions that could occur. One of them, their suggestion is quarterly. So my strategy is a maximum of 50 orders in a second, all of a sudden I start sending 200 orders in a second, that should be stopped.

MR. ANDREI KIRILENKO: My question is about books and records and the keeping of. Do you have a suggestion about keeping logs and how long?

MR. JITESH THAKKAR: You are talking in terms of errors?

MR. ANDREI KIRILENKO: In terms of errors, in terms of changes.

MR. JITESH THAKKAR: That's a good question. It depends on the system, it depends on the firms. I think they should be kept as long as the system is in production.

MR. ANDREI KIRILENKO: But the working group hasn't -- there is nothing in this that talks about this, is there?

MR. JITESH THAKKAR: No, there isn't.

CHAIRMAN O'MALIA: Are you saying a gotcha approach isn't going to work?

MR. CLIFF LEWIS: Two points. The NTSB, I think, is a very dangerous -- I don't buy the NTSB story. I don't buy a lot of the sharing stuff either. Look at, the most prized competitive possession of the active traders are their proprietary models. And this sort of function that somehow they are going to get together and hold hands and sing Kumbaya and explain what went wrong so that next time it will be good for everybody else, goes to the heart of a view of this marketplace that I, for one, am delighted to say I don't share.

The issue, it seems to me, is not whether guys screw up and lose money and exit the market, that's always been the life blood of the Chicago markets. In fact, most of the legendary traders here went bust two times before they made it back.

It seems to me the only legitimate public policy issues is not protecting idiots from their models, but is there an actual market -- is their a public policy impact that trumps the sort of

natural, let the smart guys win and the dumb guys depart.

And I have yet to see any evidence that actually the old time Chicago model of, you know, you blew up, good-bye, isn't the right model for this. I'm using model in a slightly different term.

And in other technical point, it's all fine and good to talk about realtime models and this and that, but the reality is you cannot test the model in market conditions. There is some basic reasons for that, which I won't go into. You are always making assumptions as to what market conditions are going to be. You cannot really reconstruct the circumstances that anybody faced when they were trading either.

So the reality is, the measure you got is did the guy go bust? And in going bust, did he bring other people down with him? Was there a consequence? So I don't even see in the Knight instance, people on the equity side can correct me if I'm wrong, T.J. lost a lot of money for his shareholders and had to bring in somebody to bail him out. It seems that like that worked. I don't quite see what the problem is. Isn't that the --

Donny blows an option pricing, Donny has to make due with whatever he has now, poor bastard, but I don't think he would argue that somebody needs to provide him a safety net. So I'm kind of lost about how any of this stuff would work.

And the analogy to aircraft engine malfunctions, I think, is very misplaced.

CHAIRMAN O'MALIA: Colin, do you want to speak briefly about dash 5 and how that saved Knight?

MR. COLIN CLARK: How dash 5 saved Knight?

CHAIRMAN O'MALIA: Yeah, in terms of pre-trade functionality or risk checks.

MR. COLIN CLARK: Well, I don't want to get too much into Knight, but I mean what I think the byproduct of the Knight event was the industry getting together and communicating and trying to identify how can we, you know, protect ourselves from this happening again.

I think the outcome was, in a way, an exchange kill switch, which the industry is now working together to see if that is a good solution.

CHAIRMAN O'MALIA: Larry.

MR. LARRY STABB: The issue is -- this has

been has been -- the answer is, he did reach out. People came in, what if they didn't? And I guess the question becomes is the clearing house -- is that an acceptable solution? Maybe it is, maybe it's not, I don't know.

MR. GREG WOOD: It's more of a couple of comments, but on this topic and also on Jitesh's presentation. To the point of what went wrong on August 1st. This is one of the things that we have been doing, which I'm also involved in. You can test and you can test and there will be issues that occur. The best that you can do is to try and show you've gone through all the appropriate quality management processes to try and minimize the chance of something going wrong. And that's not just in software development, but also as to deployment, also as to monitoring.

Having the exchange kill switch seems like a good idea. One of the biggest concerns I have, and we will talk about this actually later this afternoon when we talk about Rule 173, after the whole diagram it talks about market access and risk management, which I think will round out some of the question asked here.

There are lots of way to access the market and access the market directly. And not everyone who uses automated trading systems and has the potential to disrupt the market have direct access. In which case, it is the broker who has responsibility of turning off the activity. Then who needs to test, who needs to certify? It adds a whole new dimension.

One other thing that I want to just say, we are having these conversations about testing and testing is such a very important part of deploying something into production. You are never going to create a true test environment. Even if you relate the data from 2010 and run your machine against it, you are not testing like to like, because your model will have impact on the market, it will change the whole environment and of course you can never predict what the market gains is going to be.

MR. RICHARD GORELICK: I think that's good that Greg and Cliff pointed out some of the limitations of testing. That said, testing is very valuable. You can get a lot of benefits from the process, but we shouldn't assume that it's sufficient in its own right and that's why it's

multi-layered.

I do want to take exception to something that Cliff said in that I was part of the group that got together and drafted some of these best practices and my firm participated in that and there was a tremendous amount of sharing that went into this about hard lessons that we all learned over the years from trading, from figuring one thing out or another.

And I think that generally speaking there is a consensus that trading errors and that creating risk situations is not in any of our interests and that we don't want to compete by keeping secret information about different ways that firms can blowup and kill themselves. Because it's not in any of our interests to have that as part of the market.

There has been a lot of sharing and I think there is an opportunity to actually make people safer, as this group pointed out, by learning not only from the errors that we make in secret on our own, but by sharing that information and learning from others as well.

CHAIRMAN O'MALIA: Bryan.

MR. BRYAN DURKIN: Not to sound like a broken

record, over the last couple of years of working with Commissioner O'Malia and this distinguished group, I do think that a lot has been accomplished through your leadership and through the work and efforts of people around this table.

And if you take a look at Group 4's presentation and you see the plethora of risk management steps that have been undertaken, I would argue a lot of those things have evolved with the very dialogue that we had within this group and all of us learning from each other as we enhance the protocols and the pre and post-trade protections that are in place.

One of the challenges that we have dealt with and need to continue to deal with, is the cross-market idiosyncrasies that occur. And so on the futures side of things, when you look at all of these controls and best practices that we've put in place, because these markets are linked, particularly on the equity side of things, we're not playing by the same kind of protocols or capabilities that exist.

And when you take a good look at May 6th and what happened there, I can tell you I have a whole

cataloguing of what happened and submitted to your offices by the end of that evening through the work of Dean, myself and a few others. We have a very granular audit trail in place to be able to provide that information.

There were certain controls that allowed that market to stop doing what it was doing and regroup and retrace. And so, you know, I think something that has come out of this group today is that there quite possibly could be some further refinement on the testing protocols that are in place and I'm hoping that maybe later this afternoon we could delve into this in a bit more detail.

MR. ANDREI KIRILENKO: I would like to ask a question, since it was brought up a number of times, I wonder if you -- you said length of time, you said something about pauses. Have you considered pauses as a trade functionality different types of pauses and different lengths of pauses that are, you know, some large but maybe you don't need to have a hole in the book, but just a look at checks and balance pauses, as a sort of pre-trade functionality.

I don't see much discussion in your presentation, I'm just wondering if it 's deliberate

or if you just --

MR. DEAN PAYTON: Well, I think there is a couple things. So first of all, there is continuing innovation. So as you saw that ICE came out with their IPL this year and we've enhanced our risk management interface that goes out to customers that allows them to lock orders at a very granular levels.

We are developing a new type of market functionality called velocity logic, that doesn't require that transitory liquidity gap to be to be speed catalyst. It's basically looking at the whole issue of market moving too far too fast, which takes us back to the day after the Flash Crash when we were talking about that being the issue that needed to be addressed.

So there are ways to build different kinds of pauses into the market. But again, it's a balancing act, right, in terms of interfering with the market space, creating issues across related asset classes versus taking out, you know, all the potential risk in the market. These are still price discovery markets and markets are going to move and there is going to be times where liquidity demand outstrips

supply.

MR. ANDREI KIRILENKO: So you are more comfortable with the things you've put in and pauses is something that's requires additional thinking and innovation; is that fair?

MR. DEAN PAYTON: Yeah, I think that's what you're seeing, right. You are seeing continued innovation in the marketplace. As Richard said, you know, from a trader's perspective they want markets that have integrity, certainly from the trading venue perspective, we want reliable markets. And so we are going to continue to look at ways that we can deliver on that for our customers.

THE COURT: Jim, real quick.

MR. JIM NORTHEY: I just want to make a couple points. We sort of had a logic policy that was introduced, if testing isn't perfect, we shouldn't do it. I think there is a great deal to be gained by testing. And that just like any other effect and behavior, every time you have a failure incident, you have a new test. So you grow your test cases with experience. That's the first thing I want to mention.

And then I think the second point is that we

do -- automation in and of itself produces a new category, a new type of risk that you have to manage and control. And no matter what we do in terms of quality management, there always needs to be some kind of union judgement and training.

And what PPG had already done, when I worked in aerospace industry, we spent a great deal of time on fault analysis. We had entire departments that studied fault analysis and we learned from that.

And we took what was a very imperfect, very brittle and fragile thing and they would fly around the world every day, hundreds of thousands of flights. And every one of these things that are safe for flying are actually very complicated and very unreliable mechanisms and I think there is a lot there that can be learned.

And I think that we should make sure that we protect everybody's right to lose all their money tomorrow. But what we don't want them to do is take the market and the market integrity with them.

CHAIRMAN O'MALIA: Great point. This is lunch time. We are over. So I'm going to end it here. Bryan's point, great discussion for when we

come back. Great work on the definition. The issue of quality is a real concern and the testing that you've brought up is very important.

What's in the market today, what are we thinking about in the future reforms, et cetera, that will be this afternoon and we will talk about that further. And that is really the fundamental of what I want to talk about in our next meeting, the first quarter of next year, bringing the policy recommendations and the recommendations here about what's in the market today, what we've talked about and recommended in terms of HFT, bringing that together and figuring out where we have holes, where we have redundancy, where we have waste and not useful policies in place, we need to think about that and have that discussion.

So I would like to come back in about 45 minutes, so quarter to 2:00 so we can get on with the next couple of discussions.

(Luncheon break.)

CHAIRMAN O'MALIA: Let's get going to the next panel. Sorry for the short lunch or long discussion, either way. We have, for the next panel, one-year ago tomorrow, MF Global filed for

bankruptcy because it couldn't fill the $1.6 billion hole in customer funds that were missing. Three months ago customers of Peregrine Financial Group learned that Russell Wasendorf made off with over $200 million in customer funds.

To prevent this sort of fraud from taking place again in the future, I pressed the industry to develop an automated system that would verify customer account balances held on a daily basis. And in fact on the 26th of July we had an emergency meeting to discuss this very topic.

We had what I thought was a very good and important discussion. We talked about possible Commission action and we certainly heard from the FCM's talking about which accounts they could -- the extent of the work that would have to be filled technology solution and which accounts would be best to solve this problem first.

So I think there are a number of things that have to be done in order to prevent fraud. I don't think the recent Commission rules that we just put out two weeks ago go far enough from a technology standpoint to -- from a manpower standpoint that would allow us to really surveil these markets on a

regular basis.

So I remain optimistic, as we discussed in the last meeting, that there is an industry solution that is being worked on that can offer, over time, a real positive automated solution that will make sure that fraud and abuse like this cannot happen going forward. Or at least it will be much more difficult for them to get away with it and we will be on them in a very quick fashion.

So let me turn it over to Chris Hehmeyer and I don't know if Bryan was going to participate in the discussion as well, but NFA and CME have had the lead on a lot of this and I wanted to just take a little bit of time here to get an update on the schedule, because I asked at the last meeting what is the schedule, when will we have this. And they said we're not ready to give you that yet, so we are looking for the update today. So take it away.

MR. CHRISTOPHER HEHMEYER: Thank you, Commissioner O'Malia for that. And thank you for your continued leadership with the Technology advisory Committee. I think that this forum, as a venue for industry issues in these quickly changing topics of technology, is a very worthwhile effort.

I know that takes some work and the Commission, et cetera, but thank you, again, for your leadership and getting us all here. Because the futures market, knock on wood, have been pretty good about this, although we certainly had a couple of pretty bad stumbles in the last few years on the FCM side.

And the meeting of July the 26th in Washington as the chairman of the NFA, I stood before you all and described what I called a big hairy project to come up with the technology to be able to confirm balances at good seg locations for FMC's. And we do that now with some of these tools like Confirmation dot com where we can manually go in.

But what we're talking about, the distinction is, is that we can automatically verify balances, beginning with bank balances, but eventually getting to other locations. And I'm happy to report that the NFA and the CME, both in the United States and overseeing FCM's, the staffs have been working together really well on this topic.

And there are -- while there are a couple of differences and when Bryan finishes I want to go

back to some that are peculiar to the NFA, but with Bryan's team and all the people at NFA, the teams have been working, as I said, together very well.

And what I had really was in some ways a vision, when I was there in Washington on the 26th of July. But one that was -- a vision that could be accomplished. But we were trying to figure out exactly what would be the best way to do this, and I'm happy to report that the staffs, after a lot of effort, work, due diligence, putting out requests have come up with a very viable outsource solution to this.

And let me turn this over to Bryan who can describe it. He and I have talked a lot about it, and so I'm going to turn this over to Bryan, but it's terrific to be able to report that it is something that we are going to be able to accomplish.

MR. BRYAN DURKIN: Thank you, Chris and thank you, Commissioner O'Malia. First of all, credit to what I'm about to explain to the Committee goes out to the heads of the respective audit teams from the NFA and the CME Group, Regina and Ann Beatty and Curt and really taking the leadership in giving this

the very highest of priority for our industry.

Along with Ken Haas, we had an initial dialogue very briefly after we met with the TAC and we put all forces together to come up with a solution. And at that time, if you recall, we were commencing the utilization of Confirmation dot com and getting ourselves familiar with that and realizing that there were certain shortcomings in the context of what the respective audit teams wanted in the context and needed in the context of a more robust and automated system for electronically reporting customer assets.

We really believed that at that point in time that this was going to be a much longer initiative in the context of what was going to be required to give us the technology solution for the respective teams to have the information needed to do the reconciliation that they would need.

And by these two teams coming together and giving it their all, they came up with an approach that we're happy to report today we feel largely will be able to be enforced by the end of the year. And I'll walk you through what those steps are.

Initially the NFA and the CME teams came

together, developed what protocols were for electronic reporting of this information from the independent parties.

Now, if you recall, both entities had already required the daily reporting of segregated calculations from the FCM. So there were a number of steps that had been taken immediately to require on the part of the FCM community daily reporting of this information.

The team has taken it a step further by engaging a variety of vendors in the industry and some of these vendors involved third-party services, some from the banking sector, they did a very, I think, full and robust assessment of what were the capabilities out there. And time being of the essence, they went through an RFP process. We had eight parties respond to this initiative and we're happy to report that the NFA and the CME Group have selected a vendor and they're in final negotiations to effectuate those terms.

The goal in all of this is to have independent reporting from the third-party banks in providing this in an electronic medium on a daily basis. And that is what's going to be delivered to

the respective audit teams.

As a part of that, the teams are currently setting out, you know, what the criteria will be for the reporting FCM's, as well as the banks and those holding those customer balances in terms of complying with these requirements. The NFA and the CME adopted rules, placing these requirements on the part of the industry and on the part of the FCM's and our members to assure that they will have full compliance with the reporting of this information.

The goal here is to begin having banks connecting to the system by November of this year. And by the end of the year, we're hoping to have full reporting and connectivity from the third-party banks coming into our systems.

Towards the very beginning of next year, the respective audit teams will be taking that information in. They will be doing reconcilements from the third-party source. Doing those reconcilements against what is reported by the firms on a daily basis and identifying variances.

Within identifying those variances, they will be establishing reasonable tolerance levels which will be integrated as a part of their overall

examinations and performing their monitoring of this information.

Once all of that is in place, the actual reporting will be starting with cash held at the banks. And shortly thereafter, we will move to requiring the reporting of securities that are held at the banks. Once that information is coming in to our respective organizations, we will then move to other clearing organizations and carrying brokers.

To insure that the steps that the NFA and CME Group are setting forth and the expectations the that they are setting forth in the context of this reporting mechanism and the monitoring that will go along with it, they've also developed a working group that is comprised of representation from the FCM community, the FIA, the NFA, the CME to insure that the steps that we're taking and the protocols that we're putting in place serve the basis and the needs which I believe are the foundation of Commissioner O'Malia's request when we had this meeting a few months back.

We firmly believe that with the submission of the customer information that is reported on the part of the firms, along with this independent, what

we would view as realtime information that is reported by the banks, this will provide us with the appropriate tools and mechanisms in place to validate and insure the safety guarding of the customer assets.

MR. CHRISTOPHER HEHMEYER: Bryan, thank you very much. From NFA's standpoint, next phase, after this, we would like to extend this to CPO so that we can start to monitor balances of funds. Now that gets more complicated, because there are allowable assets and pools that don't have to be current assets.

But the effort to do this with the FCM's, along with the CME, is going to allow NFA to get a full understanding of the technology and the technologies come from a fund administrator that developed it. As I said, it to be able to deliver this with an outsource solution, one that is working and dependable, without having to build this kind of thing, it's going to give us, in relative short order here, the ability to confirm these balances and then possibly allow us to monitor balances and maybe be a little bit more proactive in trying to detect fraud and such in the NFA. For both

organizations, is -- this is a great thing.

CHAIRMAN O'MALIA: Does anybody have any questions or thoughts on this? I think this is -- I think maybe it was early days, but it didn't sound like you were going to have the solution by the end of the year when we first discussed this. So I'm impressed that we're getting that kind of deployment at this level.

Now, will this allow you to, you know -- it's a push strategy, I assume, that the banks will push the data to you and you will be able to, as the FCM's, and compare that?

MR. CHRISTOPHER HEHMEYER: I'm not exactly sure about the technology aspect of it. I believe the technology is permission to go in, check balances and confirm, but I'm not positive about that, but I can get you an answer, Ken Haas is here.

CHAIRMAN O'MALIA: Ken, you can take a microphone if you want.

MR. KEN HAAS: Yeah, it is a technology that will be pushed from the bank to the data aggregator and then pushed from them to CME and NFA.

CHAIRMAN O'MALIA:: So the data aggregator and the technology group, are they one in the same?

MR. KEN HAAS: As they were speaking, yeah -- let me explain, you've got technology groups at the CME, at the NFA and then the data aggregator, yes.

CHAIRMAN O'MALIA: So the data aggregator is the third-party entity that Bryan and Chris referred to.

MR. KEN HAAS: Correct.

CHAIRMAN O'MALIA: And they will do the tie outs and evaluations and things. Will they send you an alert that something is out of whack or they will aggregate the data and then send it to you?

MR. KEN HAAS: They will aggregate it and then send it to us.

MR. BRYAN DURKIN: And we will incorporate that information in the context of the audits that Ann's team and Gina's team do on a daily basis. And as we stated earlier, they will be establishing the criteria in terms of what they view as acceptable variances. And those that have reached those levels would require their teams to do follow up.

MR. CHRISTOPHER HEHMEYER: I stand corrected on the technology, but make no mistake, there is a lot of work to do here.

CHAIRMAN O'MALIA: Understood. I think

everybody knows that the Commission proposal, at a minimum, says that banks have to provide permission to be able to access and this would be a labor intensive, much like logging onto my bank where I would check my balances, at the minimum level the rule says that that is the standard. That doesn't work.

There is no way we can monitor effectively balances all over the place on a regular basis to just go in and log in, start writing down numbers on a spreadsheet and then check them against the FCM, that's insane.

MS. SUPURNA VEDBRAT: Can I just ask a question on the fund administration CPO that you mentioned? I mean, would the expectation be that fund administrators would push information or they would have access to be able to see what balances were against their individual accounts?

MR. CHRISTOPHER HEHMEYER: Well, and again I haven't gotten into any of that and that's the next phase of it. The first thing is the FCM's. But of course they are different pools an administrator can run. But the fund administrator that has this technology, of which CME and NFA have done a lot of

due diligence, which I mentioned in my opening remarks, that is their business. And the technology was originally built to confirm balances for funds, hedge funds.

So I don't know if that answers your question, but it would be per fund. If a fund reports that it has so much in it, and I'm not sure what those requirements are today, but at times some of these funds, which NFA has been great at finding after fact, we want to be anticipatory and proactive in finding it before the money leaves the fund.

MS. SUPURNA VEDBRAT: And I mean from the emergency TAC meeting that we had, one of the concerns that as an asset manager we had is that today there is only one channel of information sharing and that's via the FCM. There wasn't another check and balance for, you know, for asset managers.

And just to the extent we do this reconciliation internally every day on, you know, what we anticipate the calls would be to the custodians and everything. So if there is anything insider help that Black Rock can provide as you integrate we would be happy to help and most of it

is electronic.

MR. CHRISTOPHER HEHMEYER: Thank you. Most definitely, thank you.

CHAIRMAN O'MALIA: I think obviously this is going to the right place. I don't know if anybody has any other questions. I think we will continue to follow this and we will put it on every agenda until it's built out to make sure we stay on top of it. Because tomorrow is an anniversary that we're not proud of. And we cannot let this happen again.

MR. CHRISTOPHER HEHMEYER: And it's partially because of this forum, it's hard to say how much, but there is no question that this forum is in some way the impetus for this happening as quickly as it did.

CHAIRMAN O'MALIA: Thank you very much. Thank you, both. Now we are going to go to the last panel, our Panel 3. And this final panel will focus on technology related issues. These issues are linked to the Commission's rule making process.

Initially we planned to focus on the new pre-order check and clearing requirement found in Parts 1.73 and 1.74, respectively, out of the Commission's regulations. Unfortunately, due to the

storms, a number of our panels were unable to make it to Chicago. And as a result our discussion on 1.74 will be limited to hearing from industry participants that were able to join us today. We will not consider a full hearing, but I think we have enough people here to discuss and lay out some concerns and I would be happy to take that back to the Commission and certainly the record will show that discussion.

So we will not have a full interview, most of our witness couldn't be here, but it would be a good opportunity to kind of raise some of the important issues that you all are considering.

But I do want to talk about 1.73 and we do have -- we have Hugh Rooney from our Chicago office, from the Division of Clearing and Risk here to explain Rule 1.73 and provide some background on the rule and help us understand what is required then in order to establish compliance with that rule.

We find ourselves at a point, when after a confusing chain of events between the two rules involved a final rule publication, subsequent no action relief and the setting of a compliance standard by the ECR without a Commission vote and

finally the issuance of no action relief has left the market thoroughly confused, I believe.

I decided to include these topics in order to provide some clarity as to exactly what these rules require from a technology perspective. And once Hugh describes the new rules, we will have the TAC members discuss the technical difficulties presented by compliance and we'll hear from Greg Wood who has done an enormous amount of work on this to help clarify what the technology challenges are. And we'll all find that very beneficial.

We published an original rule back in April 9th this year entitled, The Customer Clearing Documentation Timing of Acceptance for Clearing and Clearing Member Risk Management. The new set of rules made changes to numerous parts of the Commission's regulations. Two rules in particular caused a great deal of concern within the industry. That being Sections 1.73, 1.74 placed additional burdens on FCM's and clearing firms with respect to clearing transaction.

Hugh can explain to us in John Lauten's (phonetic) stead, who could not make it here, what is the 1.73 and I think we'll hear from Greg and

open up the discussion. I think many people around the table are very familiar with this debate, so it probably doesn't need much prompting. So Hugh, thanks for coming, thanks for filling in.

MR. HUGH ROONEY: Good afternoon. Just to let you know I got this assignment yesterday afternoon, so I'll tell you what I know.

1.73 initially grew out of a study we did in the summer of 2010. We went to every futures commission merchant in the industry -- rather every clearing member, most of which are commission merchants. And we were doing a study at the time on midday variation settlement. And we wanted to make sure to educate ourselves and a fellow regulator expressed concerns about the movement of cash in midday variation.

And we went out to do the study, we interviewed everyone and as part of that study a lot of discussions came up about stress testing and how they beat the variation. And as it evolved, the Division of Clearing -- it was not the Division of Clearing and Risk at the time, it was the Division of Clearing and Intermediary Oversight, but at that time thought that we should bring a lot of the

techniques being used in the industry currently into the regulatory structure. In other words, nothing in the Commodity Exchange Act required stress testing. Nothing required liquidity assessments. Most people were doing it.

And when we presented this regulation to the commission we said that most of the firms would be in substantial compliance with the regulation. And what happened over the years is the regulations changed over the years, we didn't believe that the act kept up with the technology.

When I started with the commission, which you can probably imagine was a long time ago, we didn't have computers and we had price limits and spec limits on every commodity. When I started at the commission, it's hard for some people to believe, treasury bonds had a daily price limit and there were spec limits on the treasury bonds. So stress testing wasn't a concept we used back then. You could do it in your head, a stress test.

And then the introduction of options in the early '80s, that got even more complex. We removed price limits, we removed spec limits, we brought options into the marketplace. And therefore stress

testing was something that FCM's and clearing members needed to do. And as I said, over the past year we went and visited as a part of midday variation settlement process. But we visited clearing house and FCM's because the mutualization of losses and claims. If clearing member A defaults, clearing member Z is going to have to pay for some of that and are true to fault, hopefully you never see that.

But as part of that process, firms told us if I'm doing very good risk management at FCM A and Z defaults because they're not, I'm going to have to pony up to the table and pay some of those losses. So we thought of Regulation 1.73 as sort of leveling the playing field. And since we thought most people were in substantial compliance, we thought this would help everybody get the same level playing field on a regulatory concern. And at the same time insure that everybody was doing it.

And we don't like to see it, but in some of the firms we went to, we thought some of their risk management controls were suspect. And we thought some firms, mainly at the one end of the industry, would sacrifice risk management for commissions. So

again, we wanted to create a level playing field. And so we came up with Regulation 1.73, which we think brought in to our traditional customer protection, in terms of registration, capital rules, segregations and public audits, all those things combined to protect the customer. The previous panel here, obviously, we've had some failures in the last year, but the rules are intended to prevent those failures.

So 1.73 was to modernize the Act, bring it up to speed and put every clearing member on a level playing field. Here is what you have to do.

Now, we thought when we drafted the regulation that we drafted it in a way that clearing members could comply with that regulation in broad ways. For instance, our stress testing regulation, we don't mandate how you do it, we don't tell you what systems you have to use, and we don't say what technology you use.

And some of the comments we got in the rule making process were, you know, what if the NFA don't tell us how to do this. And as someone who has been with the commission a long time ago, this ought to be something the industry does very well. Risk

management does very well. I'm in the risk surveillance at the commission, I would like to tell people when we have to come visit them, I think of myself as having one of the easier jobs in the commission because we are on the same page as the people in the industry with respect to this. No one wants to default and no clearing member wants to pay for a customer's debt.

It happens and it happens every day in small amounts, but no one wants that. So I think of us as being on the same page. Now obviously this is open for discussion today, we'll find out that we're not always on the same page.

So Regulation 1.73 has eight clauses, but three major components, order screen, stress testing and liquidity assessments. Personally I find the liquidity assessments the most interesting and I can tell you a few thins as we go through. I can't obviously reveal the clearing members or the traders, but that's been a problem our group has encountered over the last few years that we've found significant.

1.73.1 says you have to establish credit market risk, based on position size, order size,

margin requirements or similar factors. And there is where we sort of -- we think we were doing the right thing in providing an open architecture, you've got to have a risk system. Before that trade goes into the pipes, someone at the clearing member has to make a decision through an automated means that that trader can bear the financial risk of that trade or that position. It can't enter the system without someone making that assessment.

We just -- now, with respect to bunched orders and give-ups, that's become controversial. And there is some significant technology issues to overcome. And I know people in the industry have been concerned about it and think that we may be trying to tweak something that works and hasn't been a problem.

However, that's where we are at today and I think everybody who knows and has been involved in this, the Division has given a six month extension on complying with that part of the regulation.

The second part of the order reads, that monitoring for the risk base is done overnight and daily I. Part four, which is sort of what I always consider the body of the regulation, the main part

of it, is you have to conduct stress testing. Conduct tests of all positions in the proprietary and all positions of any customer account that would pose a material risk to the futures commission merger at least once per week. So we're saying, we don't care how you do stress testing, we don't care of if you use global risk and we don't care if you use Calypso we don't care if you use your proprietary systems, but once a week you have to do it.

Now, I've received questions, what's material risk. That is a good question. I'm a CPA by trade, so the term materiality has really grown out of the world of accounting and we believe that materiality is any loss that could have a material effect on your balance sheet, your income statement.

so again, that will be a determination made by a clearing member, what is material to you. And that is part of the reg, again, that we built that in so you don't have to stress test every account on your books. Given the FCM, if you've got $1 billion in span risk, maybe say accounts with less than 50 million in span risk don't need to be stress tested.

Maybe someone who doesn't exceed a certain

threshold by positions doesn't have to be stress tested. Spanned risk is probably a good way to look at it, but, again, we're not mandating that.

Evaluate the ability to meet margin requirements at least once per week. That's garnered some questions, margin is margin. Part of that rule is centered on if there is not a large change in margin. Crude oil margin is, you know, make up a number, $2,000. The DCO says it's $2500 now. Can your customers come up with it? And if they can't, can you? Again, it's a liquidity thing.

In our group, in risk surveillance, we always worry about cash and can they meet the midday variation and the end of the day variation. And one of the things in our group we always tell other people at the commission, we don't care if they're hedgers, we don't want to hear that the hedgers have less risk because they have to come up with cash. So that farmer with the hedge on with the crop in Iowa, it doesn't matter to us, can he move cash.

So for us, I try to tell people we don't care about hedgers, we care about the true risk and can they move cash. And if they've got a billion dollars in Microsoft stock, that's wonderful, but

can they move it into cash and get to the clearing house by 1:00 o'clock when they have an 11:30 call.

Part 7, evaluates the ability to liquidate positions in an orderly manner and estimate the cost of the liquidation at least once per month. That's one of the things we've observed in the last three years has been one of the biggest challenges.

In one instance there was a firm With an option trader that built a position so large that he couldn't get out of it and he it started to lose money at a quick rate, as you can imagine. The position had negative gamma, it was going against him and the clearing firm said, you have to get out of this, we can't bear this anymore. At that time he had lost about $70 million. By the time he got out of the position he lost about $180 million. The FCM brought in a CPA to try to unwind this thing and they couldn't.

And one of the Principal reasons he got stuck in a lot of back months in energy products. He had a huge position on in December, I'll make up the number, 2020 crude oil. He was the whole market that day, he couldn't get out of it. If you looked on the paper, he may have looked hedged well. He's

delta neutral, but when the market started to move against him and he tried to unwind it, he couldn't get out. In that instance midsize FCM, he had to come up with $90 million of his own money to pay for it.

And that concerns us. And we've seen that with several accounts over the past year, these large option positions, particularly among market makers, sophisticated market makers who lose control. And one of these, for lack of a better term, black swan events comes through the marketplace where things don't behave the way everyone expects to and spreads break down and they're stuck with it. So that's the genesis of why we have that regulation in there.

And then we have last, test all lines of credit at least once per year. And that's consistent with regulations the Commission has adopted with DCO's. And DCO's have to test their lines of credit once a year.

So that's what I think about regulation 1.73. And the underlying principals and DCR why we adopted it and sent it forward.

CHAIRMAN O'MALIA: Do you want to quickly

explain what the attempted relief was for and the duration?

MR. HUGH ROONEY: I believe it's until, I think it's six months.

MR. GREG WOOD: It was June 1st.

MR. HUGH ROONEY: June 1st. And it's pretty much for bunched orders and give-ups. Give-ups probably being more difficult. And what we learned through the process, and I know John Lautner and Ananda have been to firms and discussed their challenges on this. I haven't been on this, but I sort of know what's going on.

It has had a significant effect on a few firms. And a lot of firms don't have a problem with it because, one, they don't do a lot of give-ups or two, they don't do a lot of bunched orders or three, they've put the technology in place ahead of time.

But we understand it has been a burden, to use Commissioner's language, on some of the firms and that's why the exemptive relief was granted.

CHAIRMAN O'MALIA: And I suspect you will get into this, Greg, but the expectation of the Commission is this automated means to check an order before it's accepted. When we put the order in

place, and this is the way it was explained when I was informed about this, as we were considering it, was this is what's being done in the industry. So we clearly have, what Greg will get into with the bunched and the give-ups, how do you check an order when you don't know who it's allocated to, generally.

But if we didn't look at that, how do we expect the industry to solve for that? And maybe do we have an opinion about what they should do by the time June 1st rolls around?

MR. HUGH ROONEY: I guess the fundamental concept is the Division didn't want any orders going into the system that someone couldn't financially handle. The dentist from Des Moines sends in a 10,000 lot to sell S and P's, but that's a simple and an obvious one. But in the world of electronic trading, you want an electronic control to stop that.

When you check in here at the hotel and you slide your credit card, it immediately checks how much your credit limit is so the Hilton doesn't get stuck at the end of your stay and you've order $5,000 of room service. And that's the general

concept. It's very challenging and some firms have told us they're in compliance. And obviously every firm is different, every firm has different level of customers and different sophistication of customers and that's the challenging part.

CHAIRMAN O'MALIA: Greg, why don't we hear from your side.

MR. GREG WOOD: Does anybody have the remote control for the slides? As that comes around to me, I would like to say thank you for giving me the opportunity to speak on this topic. And represent the Futures Industry Association, so thank you very much to all for asking me to do this.

I was part of a group from the FIA that went down to Washington in September. Walt Lukken who is president of the FIA; Maria Chiodi who is president of the Legal and Compliance Division and myself as the president of the IT Division, we went down and met with John Walton and his colleagues to ask for relief on specific parts of 1.73.

There were actually several items that we just wanted to clarify the wording on. And we also wanted relief to allow for the industry to be compliant. Particularly around bunched orders,

give-ups and also for exchanges that don't currently have pre-trade controls. So they also got an exemption to June 1st, in order to prepare their systems in place to allow pre-trade controls.

I'm also part of a small working group within the FIA IT Division that spans across several different institutions including R.J. O'Brien, Barkleys, Newedge and Bank of America. And we have been looking at the technological challenges around 1.73.

So the presentation here, there is a lot of detail in here and I'm not going to go through everything because the idea is this document is meant to be free standing, so you are can go and refer to some of the concepts that we talked to.

The main thing we want to get across here is what we see within the industry. And this is, you know, as I say, this is not just those firms that I just mentioned, there is Goldman Sacs, there is Credit Swiss, et cetera, all of the other FCM's who are also concerned about how these parts of the rules are going to affect the way that business is done within the futures markets. Important note to make, this is talking purely around futures and

options on futures.

So let's just look at what the rule says, just very quickly. So with reference to the give-ups the rule says, clearing FCM's must establish risk-based limits for the customer and enter into an agreement with the executing broker that requires the executing broker to screen orders for compliance. The clearing FCM shall establish and maintain controls reasonably design to ensure compliance with the limits.

For bunched orders, clearing FCM's must establish limits for the block account and screen the order; enter into an agreement with the account manager requiring them to screen orders; FCM's that clear the allocated trades must establish and maintain systems and controls reasonably designed to insure compliance with the limits.

So this presentation is going to focus on these two aspects of 1.73. To Hugh's point, the FIA definitely supports the goal of improving risk management across the FCM community, in terms of the processes that should be put in place. As Hugh described, we've done some stress testing, liquidity, checking lines of credit.

These are definitely practices that we fully support. And, again, they are processes that we are not particularly pushing back on. It is particularly these two comments that we have some trouble with.

So with regards to the FIA fully supports the goal of 1.73. The risk management of give-ups, in particular, a significant challenge to the industry. And unlike the OTC market, as Hugh has mentioned, futures trades can't be broken in the event of a failure of a counterparty to meet its obligations. So therefore, if someone can't actually settle margin for trade, someone else has to wear that risk and it's usually the FCM who is holding that trade.

So the aim of this presentation is to attempt to demonstrate the changes around implementing the rules to give-ups and bunched orders. And one of the main points I'm going to touch on here is just to show how the futures, execution and clearing landscape has evolved over the last 10 years. And this is what actually presents the challenges.

So clients either choose to use multiple clearing relationships to minimize counterparty risk, we talked about that on the previous panel, or have this mandated

with in the conditions of the funds that they manage. They have to choose several clearing brokers to clear their trades to minimize any kind of progress.

Clients will choose to use multiple execution relationships based on various factors, including quality of service, available functionality, relationship and the options or alternative execution in the event of an issue with any single counterpart.

So this has led to a significant percentage of trading volume being executed for give-up agreements and often executed as a bunched order, that is then allocated on a post-trade basis.

Risk management has evolved to support speed bumps on a pre-trade basis and this has a qualitative element as well as being quantitative on a post-trade basis and generally geared to avoiding limit breaches rather than reacting to them.

So both clients and FCM's have built a complex infrastructure of in-house and third-party vendor solutions for various components of the futures trade cycle. Core components, which are costly and time-consuming to continue to upgrade or replace and also highlighting across various systems there is no common way to transmit the data around risk management.

So on the next slide we have some statistics with regard to give-up volumes on the major futures markets. Who uses give-ups? Asset managers, pension funds, hedge funds, CTA's, various institutions. If they have multiple execution relationships, then they are very likely to have a give-up relationship.

Why use give ups? Well, as we mentioned before it minimizes counterparty and concentration risk.

If we look at the volumes, I'm not going to go through the volumes, but if you look at the percentages on the right-hand side, you can see that there is a significant part of the volume that's traded is actually give-up. If you look at the CME volumes across January, February and March, 51 percent in January, going up to 76 percent in February and 81 percent in March.

The reason why those figures change is because of the rolls. So when you come to do your quarterly rolls there is more activity on give-up accounts than there is normally during the month. A large part of the trading volume on the exchanges comes from, as we've talked about previously, also comes from high frequency trades and for simplicity of operation, a lot of that flow is not given up.

But then when we come to the course of rolls in

February we have treasury rolls. In March we have index rolls. Then there is a large of percentage of roll business that is then subsequently given up, so that's why the percentages go up those times of year. And then you see similar statistics on other exchanges like EUREX, LIFFE and ICE.

Now, bunched orders. When do we use bunched orders? Account managers use bunched orders to maximize the efficiency of their execution and avoid entering multiple orders for the same instrument and side. So by executing those orders together, the trades can then be equitably allocated across all individual funds and to minimize any price disadvantage. Which is also one of the key facts for an assess manager is they need to make sure that each of their funds has an appropriate equitable allocation of the trade.

Bunched orders that will be allocated on a post-trade basis are executed into what is often referred to as a top account. There are other names for the top account. It can be an allocation account; it can be an expense account. For the purposes of this presentation we settled on the word top.

The top account is an account that is opened with an executing broker that holds the trades until they are

allocated. So the executing broker will clear the trade on the exchange and then wait instruction from the client. And then when I give out those trades to other clearing brokers or remove those trades out of the top account and into a clearing account at that broker. And usually to use the top accounts is mandated by the exchange group that those top accounts need to be emptied by the end of the day.

So this diagram here is an attempt to represent the complexity. So I'm going to just take a couple minutes and feel free to ask any questions if it doesn't make sense or if you would like more clarity on anything.

So we have a hypothetical client, ABC Capital Management is managing three funds, Fund 1, Fund 2 and Fund 3. Each of those funds is domiciled with a different clearing broker. So Fund 1 clears at FCM 1, Fund 2 clears at FCM 2, Fund 3 clears at FCM 3. So you can see already that this client has three different clearing relationships.

They trade on all exchanges, but they enter into an agreement with FCM 1 for execution on Exchange 1. So they use a variety of systems trying to trade through FCM 1. They use the FCM single dealer platform to a GUI

that the FCM provides. They also use a direct access vendor like trading technologies or trade book that connects directly to the exchange and bypasses the FCM's pipes. For one of their funds they also trade directly into the exchange.

Then they enter into a relationship with another broker, FCM 2, who then provides them voice trading, direct fixed connection and access. And that gives them access to Exchange 1 and Exchange 2. And they are trading each of these funds through each of those executing brokers. So there are going to be give-ups going through these various counterparts.

They also trade through FCM 4, which gives them another access to Exchange 2 using the same EMS vendor. So the idea here is to represent the complexity you have across the choice of execution and the choice of clearing for the funds that the asset manager can trade on behalf of.

The various -- the dotted lines show the allocation process as trades are given up from one broker to another or remain in-house where they actually have a full service agreement, full service being execution and clearing.

Does anyone have any questions on that? It's a

pretty complicated diagram. This is what's really probably got the FCM community the most scared, because if you look at the crosses here, there are various points of risk management. And these risk management point are generally not interlinked. So to try and implement limits from another FCM into a risk management point that you control as an executing broker provides a challenge, which we will come up to that.

So the executing broker risk management. FCM's use different pre-trade methodologies for listed derivatives trades that they execute. Some might use fat finger checks and order size. Some people might use intraday position checks.

The FIA recently put out a best practices recommendation to say pre-trade checks should be based on order size, i.e., the fat finger check and intraday position per product, although there may be variations across FCM's.

The intraday position limits are typically intended to act as speed bumps as opposed to try to measure the purchasing power of the client. The main reason the executing broker would use position checks is it doesn't involve any other statistical data. If we were to do this on a margin basis, then we would have to

factor in the margin requirements of the instruments and that could be a daily reference file or the initial margin for a future, but it could be a calculation for the options or the futures.

Pre-trade limits are typically set based on the following hierarchies: Limits per product per client firm and limits per product per client trader. Different sized pre-trade limits are set based on the following factors: Smaller limits for orders sent direct to market. Larger limits for orders sent to the FCM desk to be worked or traded via an execution algorithm that slices the order before sending it to the exchange. And also set larger limits for orders that are generally executed into an allocation account or top account as opposed to a single fund account. And that's because you bunch the orders together so you have a larger size to execute.

Pre-trade limits are contributed across the multiple electronic execution systems. And those limits are typically set separately per execution system to minimize latency. There is also, in fact, very many common API for setting limits across all the different execution systems that we use.

Now, clearing broker risk management. Again,

most clearing brokers use different near-trade risk methodologies for the trades that clear. I am going to introduce the concept of near-trade risk management. Near-trade means it's near realtime. It's after the event of the trade happening, but hopefully it's not too far after. That's why we use the term near-trade.

So it occurs as close as possible to the time of the trade and relies on consolidating activity across a variety of execution channels. So you have multiple trading systems which may provide drop copies to the risk management system. And notification of trades including give-ins that come in via the exchange clearing system.

And this is very important because the only way the clearing broker can actually truly view the risk of a particular client that they are clearing on behalf of is to see all their activity that is executed through that broker, plus what is given in. And you don't see the give-in until the give-in actually arrives on your doorstep from the exchange clearing system.

So near-trade risk management is typically managed on a fund level basis in which the ability of the client to meet the margin requirement of the trading activity in the fund that the FCM clears. This includes

trades that remain with the FCM, as well as trades given in.

This does not include trades that are given out to another FCM or those that are held in a top account awaiting allocation instructions from the client.

Clearing risk management is quantitative, but also has an qualitative element. It has evolved to minimize hard limits that may inadvertently force the rejection of a trade. Client activity is constantly monitored in near-trade and post-trade levels, post-trade being made at the end of the day, to avoid the possibility of a client being unable to meet their margin requirements.

It provides the purchasing power feedback to adjust pre-trade limits at the same FCM. So if a client, you know your client has more credit available to them, you might increase their pre-trade limits and vice versa if their credit goes down. Thresholds are established for escalation and concerns are then addressed with the client.

So because of the delays that you see in accurately reflecting the trading activity the time it takes to provide drop copies from one to another or the time it takes for give-ins to be received from the

exchange clearing system, then that's why the clearing FCM will use automated alerts to measure at various thresholds. So for example at 65 percent, 80 percent, 90 percent and you hope to never to get to 100 percent, because by that time you should have addressed any concerns with the client.

Now, as part of the working group within the FIA IT Division, we have been talking to various vendors who have either been vocal in this space or have major players within the space of both pre-trade and post-trade technology. So we know that several third-party vendors have announced that they can provide 1.73 compliance.

Now, these vendors usually provide one or more components that facilitate execution and/or clearing, often connected by their own common API. Now, these different systems could be execution management systems or direct access solutions for order entry. Middle office systems for accepting trades from the exchange clearing house and also facilitating allocations. Post-trade clearing systems to manage client positions and collateral and near-trade/post-trade risk management systems that also provide automated alerting.

It's important to note that different vendors

have specialized footprints within the industry. And few vendors have equal foot prints in execution, middle office, clearing and risk management. Vendors with larger footprints in the execution technology usually have a smaller footprint in operations technology. Vendors with larger footprints in operations, usually have a smaller footprint in execution.

And there has been a trait, though, the last few years to try to consolidate solutions within vendors. But generally you find that they have one particular focus that has always historically been their main area of expertise.

We found that vendors that typically specialize in risk management do not usually provide execution or operation footprints. These are generalizations and I know, but they are generally the bucket the vendors will fit into. Either an execution footprint, an operations footprint or a risk management footprint.

The main challenge that we see for vendor solutions is the integration across all the FCM systems. FCM's typically do not use vendors to supply all four components, execution, operations, risk and middle office. Any migration in an FCM core component to and provide integration is likely to be costly and

time-consuming.

So just in summary, then, for the next steps that the FIA would like to help the Commission. So we would like to work with the CFTC staff to help the agency reach its goals. The industry has already formed a working group to consider ways of improving risk management for give-ups and bunched orders.

we're evaluating systems and controls already in place and discussing changes needed. We're evaluating ways of electronically communicating risk management limits. We are reviewing the FIA International Uniform Give-Up Agreement. This is with regards to adding any risk management metrics onto that. And evaluating leveraging EGUS to agree and store those limits. And we're also actively interviewing third-party vendors.

So we've tried to keep this presentation very objective and keep it -- give an overview of what we feel the changes are. The main changes that we see with regards to what you pointed out, Hugh, is really how do we integrate these limits across the platform that we have. And as I say, this is not just the concern of the few, this is the certainly the concern of some of the majority of FCM's I've spoken to and are represented on the board of the FIA. Thank you.

CHAIRMAN O'MALIA: Now, obviously the challenges laid out by Greg here are probably a lot bigger than we expected when we formed the rule. We had both the process issue, but what is our process for figuring these things out before we mandate them and then the expectations that they can be done quickly. I don't know, can this be done by June 1 without technology vendor outside of setting broad quantitative and qualitative limits?

MR. GREG WOOD: Well, I think there are several challenges. Even if you found one technology vendor that could maybe provide a solution, the challenge then is integrating it into systems that the FCM's already have.

If you try to create an open standard, the exchange of risk management, which is something we have been looking at and has already been approached as part of the FIA group, there is still a lot of work that needs to be done to provide the appropriate levels of granularity and also has to be adopted within the industry and integrated into the various systems.

One of the other changes would be, much as the rule is intentionally noted to allow innovation,

when you come to the concept of exchanging limits, you come to the point where you need to also have a common set of identifiers for particular clients. So that if you say, let's use Black Rock, you understand Black Rock, Deutsche Bank understands Black Rock, as opposed to our own unique ID's that we have for the accounts to be managed or cleared on behalf of Black Rock.

We also need to know how, if I have a system at Deutsche Bank that says I can only put in intraday position, but -- I'll use Newedge, if they give me a limit that says, no, it's not position, I want to give $50 million. Now I've got to equate that into what I can actually put into my system.

So as I say, there are various challenges. This is one of my concerns, at first people thought this was going to be credit checks, but there seems to be a subtext within 1.73 that we need to do pre-trade credit checks which is not uncommon at the moment within the futures industry.

And then when we got the relief that said it can be any types of checks, whether it's fat finger or position, et cetera. But then that also raises the challenge that we have to be talking common

checks to be able to implement.

CHAIRMAN O'MALIA: Now, I know the exchange is part of our no action relief on the individual, not the bunched or the give-ups or to rely on CME and ICE in terms of their credit checks. Do you have a comment or thought on any of this?

MS. KIM TAYLOR: I do. Greg has laid this out primarily in terms of the technology challenges associated with implementing the rules as written for the bunched orders and the give-ups.

And I agree that there would be some technology challenges in order to do that. But I think that when Dawn Lee and the Broader Group went to talk about this issue with Ananda's team, I thought that the point that they were making was actually a very good point that, especially with bunched orders, the problem goes beyond being a technology problem or goes beyond being something that can be solved with a technology solution. Because the problem is on a bunched order by definition you don't know the underlying accounts at the time that the order is entered.

And so the FIA, I thought, made a very good case for laying out the risk management mechanisms

that are in place in the give-up and in the bunched orders that basically turn into give-ups in the futures business. And I think what they were asking for at that time was consideration for that methodology that is in place to be evaluated, to be considered to meet the standard that is needed.

Because of the complications, not only the technology complications that you lay out, but basically the underlying business problem of not knowing the end owner of the account.

MR. GREG WOOD: I know that is something we got relief on from when we went down to the CFTC in September. It says the word account, people can have different meanings around the word account. To an FCM, an account means the fundamental account that trade is going to sit in. And obviously, if we have a bunched order, we don't know where that trade is going to reside until after the event.

So we did get relief that we can actually pre-trade limits at whatever level we termed or deemed appropriate, whether it was the client level, trader level, as opposed to actually holding that very strictly at the account level.

So pre-trade risk controls was cited as a

permissible pre-trade risk management system. One of the challenges that we have as large FCM's is we actually multiplex a lot of our flow, it's a technical term, I apologize. We have flow coming through our pipes that we will then channel down our own pipes to the exchange.

So credit controls that's typically not used, we mandate it to be used. We set limits, but those limits are generated at the clearing firm level as opposed to at the firm level. And for that flow we multiplex our pipes, we set the pre-trade controls further upstream, usually within either the vendor system or our own systems.

MS. SUPURNA VEDBRAT: I'm actually going to talk about 1.73 as it relates to swaps and then futures. In the swaps market, given the fact that there is anonymity between execution and clearing, there is a process, there is a solution that is being developed that will allow for credit limits being set at the subaccount level with the pre-trade checking and both at the block level and then for asset managers to conform to the rule at the subaccount level.

So, you know, I mean, I think that that

should be put into consideration as a technology solution for swaps is being developed and, you know, you know, our request to the Commission would be to consider that as a solution that could be applied to futures once, you know, it's been developed.

Our expectation is that there are two vendors in the market that have a very high probability of delivering the solution, you know, in the June, July timeframe. And you know, if it works with swaps, there is no reason why we should not consider that for futures.

Now, in reference to futures. Today, from a systemic standpoint, we do have give-ups in play. We do have tri-party agreements where the execution clearing member has to give approval of what the execution dealers you can trade with. It's been working, you know, very well, for many, many years.

It is on a post clearing basis, but if the Commission could also consider that, you know, even though it's post clearing, it's actively managed and if you were to see like an increased concentration risk, you know, there would be risk management in place. There would be phone calls made. Clients would be asked to put additional margin.

There is a question is an individual subaccount in a position to cause systemic risk that has all these controls already in place. The other thing is, you know, once we have the solution for swaps, another consideration that could be looked at is do we need to have both a credit limit checking mechanism as well as the give-up tri-party arrangement or just one or the other.

CHAIRMAN O'MALIA: This is a topic Supurna has raised at the July hearing. We talked about the swaps pre-trade check and we had, for those of you that were here, we had four boxes that you check it at the exchange, the DCO, the FCM or a kind of a utility thing.

MS. SUPURNA VEDBRAT: There is a third-party dashboard where all the FCM's would provide limits at the subaccount levels for the blocks. And then, you know, in the future, liquidity sources, including SEF's, would connect into that and on a pre-trade basis, the limit checking would take place.

So it seems very similar to what we are discussing for futures. And you know, our -- given all the work that everybody has to do and the

limited resources that we have, you know, to execute what is being mandated currently, this should be considered as an alternative from a risk management perspective even for futures.

MR. GREG WOOD: If I can just reply to that. We did actually discuss this in one of the slides that was subsequently taken out of the presentation, mainly because we didn't want to get into any sort of interpretation of -- too much interpretation of the rule.

The model that has been proposed for OTC derivatives obviously introduces this concept of credit checking. And I know there is still several models of those where you push or you pull credit limits. That is obviously a major change to have in the futures industry at the moment because we don't have that in place.

We would still also have to decide how that mechanism would work, whether we would carve out limits for people that we drew down on. And then once that carve out was finished, would you then have to reset that limit.

One of the things that I think we tried to make the point in the presentation is, we really

would like to try and minimize hard limits as much as possible by this active risk management that's already in place. You know, if you start seeing concentration risk in a particular account, it is time, then, for the qualitative side of risk management to kick in, as opposed to the quantitative side.

MS. SUPURNA VEDBRAT: And Greg, we are on the same page. If what we have in place today would be sufficient, that would be our ideal state for futures. If an alternative or like adaptation to 1.73 post June 1 had to be implemented, then, you know, we would want to consider the swap solution to be extended to futures.

CHAIRMAN O'MALIA: I do recall from that discussion there was no consensus at the time and we were waiting for the market solution to build out. And we find ourselves in a unique position for mandating something in the futures space when I think it was pretty clear there was advantages and disadvantages to each one of the four options.

And I think that the market moving ahead with a solution can be quite telling.

MS. SUPURNA VEDBRAT: I think, Scott, we had

the first conversation last December when there was no consensus for any solution. Since then, given, you know, the complexity of connecting to all the various schedules, the various CCP's, there has been, you know, a lot more ability to FCM's and CCP's to look into having a common solution or at least a common dashboard.

Because from a technology standpoint it's a huge build if you don't have that dashboard in the middle.

MR. CHRISTOPHER EDMONDS: Well, I'm not sure from ICE's perspective that we would agree that there has been complete consensus achieved. Whether or not that solution, while I think we all understand and appreciate the theoretical value it may bring to the table, is prepared or far enough along.

I certainly know and Supurna is making a reference to a couple of entities that believe they have solved that and they want that to be codified in some form or fashion, but that's a separate agenda and a different conversation.

Regardless, I think we have to find a way to revisit the interpretation and what Hugh went

through and what this rule was do that through one of the other four boxes that we have. And I won't speak for Kim, but I know we've had conversations in the past around some of the difficulties in the swaps world of using such a utility function where it puts a single point of failure into the chain of events. Where as a CCP that becomes incredibly problematic and we get lots of opportunities to point fingers at each other and we don't know who each other are.

So, yes it has to be dealt with. Yes, I think there is a tremendous amount of work going on. I have yet seen, from my perspective, complete consensus of where that's heading in form of a dashboard utility or whatever form it ends up taking, that there is some central hub that is going to take advantage of that.

Notwithstanding the fact that it is a challenge and Supurna and I, we have had our own conversations about how to attack that. But I just don't know yet if we're at that place where one solution can solve.

MS. SUPURNA VEDBRAT: Scott, this has to do with the fact that in 1.73 it actually sets forth

that at a subaccount level that FCM's have to give credit limits, they are required to give credit limits.

So it's actually to solve for that component of that. It's the FCM client relationship and the client's ability to manage their credit limits across various liquidity sources, which would be very similar to what happens in futures.

Because what you don't want is fragmentation of this limit that is given to an individual client across the execution facilities done by somebody other than the client itself.

MS. KIM TAYLOR: The problem is that there is, by definition, there is a certain part of risk management that is appropriately done only on a post-trade basis. Because the clearing member knows the entirety of the position and the exposure that the client has to a variety of futures markets, a variety of clearing swap markets and a variety of other markets that are not either of those two.

So the clearing member is the only party in a position on a post-trade basis to evaluate the integrity of the exposure that they face to the client. And the way that pre-trade limits tend to

be managed, I would say more or less they're managed on a runaway execution basis. So you're trying to stop today's executed trades from being excessive relative to what is the normal pattern or the expected pattern for that client. And then the finer points of risk management are really only available to be done, not really because of technology, it's because of timing and the fullness of the client exposure information on a post-trade basis.

So that's, I think, the balance -- it's a balance that we've tried to set in the types of controls that we offer on our front end systems for futures trades. Those have to be very fast because the trading, the timing of the trading is very sensitive. And then the systems that we have offered for the submission of swaps are also fast, but they don't have to be kind of microsecond fast.

MR. GREG WOOD: And to that point, that's why we describe the speed bumps. They are designed to stop someone who is running away or accidentally going over, as opposed to being a hard credit limit. If we were to introduce some sort of credit check on a pre-trade basis it is going to have a dramatic

affect on the speed of the execution within the futures industry.

MR. CLIFF LEWIS: Mr. Chairman, two things. One, I think your initial point about making sure that something is possible, particularly given the galaxy of changes that are being imposed. And I'm think of the poor, relatively unsophisticated pension fund and insurance company that are facing these things. To start breaking things that is not broken is really pretty extraordinary, as a statement of priorities.

I also am totally skeptical of vendors that can assert that they can create this kind of solution. And I'm a familiar with a couple, I don't know which specifically Supurna is taking about, but in one case absolutely, I don't believe it. You look at vendors, believe it or not, have a commercial interest. To say, yeah, we'll take care of that. You can investigate it and that's another risk we can add to Rule 1.74 about vendors that say they can do things that they can't do.

The other more general point is that I think that a key element of the risk management, which, you know, which the Commission is getting into

piecemeal, is, from our credit perspective the most important, which is the counterparty credit weakness.

We are focused purely on the positions and the derivatives market. And we are suggesting, well, let's theoretically consider that those can all be consolidated by some outside vendor in one place. I don't think that's true. I think that's really only a clearing firm that can do that. People who choose to use multiple clearing firms it makes it more complex, fair enough.

But fundamentally, if you look at major customer problems, it's not been something that has come out of the blue. It's something that you are watching in terms of that customer's fundamental credit worthiness. Admittedly, I don't clear high frequency guys but nonetheless, I think experience would suggest that the guy that is just taking the position on an energy and wants to get out of control, that is something that existing systems can actually handle pretty well. Maybe they didn't do a good job at it.

I think a much bigger problem which we're getting into by extending the CFTC's reach, by

extending it to these unlisted products, is that it's really going to get complicated in looking at the overall client's portfolio. Our customers have trouble figuring this out, much less somebody else. There isn't realtime systems for this. Most of our customers don't have intraday capabilities, something we talked about at the July meeting as well.

They would like to move intraday, but if the clients can't get a handle on this, it's not obvious to me that you're going to realistically have a solution. But it's also, as you suggested, it's not clear you have a problem you're solving, other than enriching vendors, which I'm all for in another hat.

MR. CHRISTOPHER EDMONDS: Forgive me if I misheard this, but just to clarify. I thought I heard Supurna and Greg both say, in slightly different ways, but I'll take the chance of being corrected here, that, you know, given this in the futures side, it works and Supurna, I think, recognized the fact that it did work here.

But if we couldn't figure out a way, assuming no changes to the rule, then the proposal Supurna put on the table was, whatever this thing, if

something happens in swaps and comes to pass, we ought to think about using that for futures.

So can I reverse that for just a second? And if that's the case, and I don't think I misspoke to your earlier comment. If this interpretation and this attempt to bring, in Hugh's opening statements, the rule closer to where technology has gotten, is it possible that it went too far and maybe we need to revisit the rule to get to a place where the industry can work with on that? Instead of breaking all the eggs in the carton? That's a question to you, Commissioner.

Is it possible to revisit that in some form or fashion to get something that fits to everyone's point, Everything we have on our plates don't get dumped?

CHAIRMAN O'MALIA: That is a good point. And that's the objective of this portion of today's hearings on 1.73 and 1.74, what is doable? Can we do it? And if not, what are we going to do. Are we going to be back in June 1st saying we're just not there? We either have to work harder, raise the penalty or, you know, move the rule.

I'm beginning to sense here that we don't

quite have a problem with this and/or a technology solution, so solving one or both of those will be difficult. Jim.

MS. JIM NORTHEY: I just wanted to, having built the system for the post-trade algorithm and I'm familiar with this issue, how much risk do we think there is systemically involved in the firms that use the large give-ups and large asset managers? Is there a real problem there? And are they not doing their own risk management and shouldn't that be really at the asset management and not at the FCM for those large players?

So for instance, Eagle Seven connected to FCM, it's very easy for us to analyze his position when you have one large named asset manager and it's connected into virtually all the FCM's. And the system that we built about five years ago, I remember they tested and said it worked fine. And then the first allocation it went through in production had over a thousand separate accounts off of one order.

And my question s, that firm is very sophisticated and they are already doing risk management at the asset management level. And I'm

just questioning, are we sort of making a problem that really doesn't exist?

MS. KIM TAYLOR: And I think that following on with that, I wish that Mike was here because he was the one leading this argument when the discussion was held with Ananda's team, that basically there is a lot of pre-trade risk management that occurs on give-ups and bunched orders, but it is not necessarily of the fully automated technological variety. It is of the due diligence variety primarily.

The clearing members who allow their customers to execute away have to approve which executing FCM's the clearing members want to use. And part of that process is evaluating whether or not those executing FCM's have the ability to control the kind of excessive trading behavior on a day-to-day basis.

And the executing FCM's have a strong incentive to control that behavior because if they -- if the trades that they execute aren't accepted by the clearing FCM, the executing FCM is financially responsible. So there are aligned incentive, including at the asset manager level.

MS. SUPURNA VEDBRAT: And we have risk controls in place that take into account what the executions dealers are allowed to trade. So we wouldn't be able to execute with a dealer that the clearing FCM has not approved.

MR. DAVID HARTNEY: I'll just make the point that I think this is a very constructive path. It's about the give-up agreement and the joint decision by the client and the FCM as to what the limits would be with the executing broker. And I know a subcommittee of the FIA has discussed this, possibly starting with the executing broker and establishing limits there that are approved by the FCM.

But I do think that the inherent strength of the system thus far has been in that give-up agreement and the impetus that the executing broker has to get it right.

CHAIRMAN O'MALIA: And Greg's point, when you are at 60, 70 or 80 percent, you already have thresholds of some point that are qualitative and quantitative and then I guess you own them if they don't go through.

MR. DAVID HARTNEY: That's right.

MR. HUGH ROONEY: I would like to say that,

Greg, I was very sensitive to your comments about vendors because internally we are dealing with the same sort of thing. It hit home with me with our risk surveillance for swaps. And we are having a very difficult time melding our technology with what is available from vendors. And vendors will promise you anything, there is nothing they can't do. And that's very difficult to evaluate.

We can build you a system that will do that and when the day comes they can't. And I'll certainly express your concerns, all yours, but I'm very sensitive to the one about use of vendors and having it integrate with the technology you already have on board. Which I'm not going to talk about today, but the CFTC system for risk surveillance, we are having a difficult time in the swaps world bringing a product that will help us do what we do in the futures.

It's very challenging and very difficult worlds and vendors are promising. And sometimes their promise is very cheap and sometimes there is no way you guys can have that. This is very productive and I like hearing this. Like I say, we will bring back your concerns.

The other comment which, history is always important and I think what happens is, speaking for Hugh Rooney and not as John Lautner or Ananda because they will both hurt me, the industry is always ahead of us. And I think that's the nature of regulation. And we are always a little bit behind in technology and standing.

But what happens as part of that, bunched orders has a very tortured past in Commission history. In the past, there were a lot of enforcement cases where bunched orders were clearly how fraud was created at FCM's. And we're certainly not talking about the commodity trade evaluators and fund managers we have sitting here today.

But obviously there is a very tortured past here with schemes. And bunched orders in the first instance are a regulatory exception. They weren't allowed. I mean, the exchange prohibited it. And as the industry got ahead and the industry changed from agricultural and retail to institutional and financial and in fact customers changed in the futures industry, the Commission had to recognize we are going to have to change that rule. We are going to have to allow bunched orders.

But at the same time we thought technology was going to have cured that by now. That we wouldn't have these issues of unknown traders before the execution. It hasn't happened yet and we are going to have to work on that.

MR. CLIFF LEWIS: Is that open outcry days?

MR. HUGH ROONEY: Yes. The problem with bunched orders is the floor clerks couldn't physically write that many orders on a trading order. We couldn't write down that many or we couldn't prepare 50 in the time, it would slow down, execution -- slow down the execution so much, if my clerk had to write 50 different account numbers it would hurt the customer.

What does the Commission want? Do they want you to hurt the customer or get fast execution? And the Commission worked with the industry and built in an exemption and a way of getting that done. Hopefully that's what we do here today.

CHAIRMAN O'MALIA: Any further thoughts? Hugh, this is a vendor conference, by the way, so when you exit, good luck.

MS. SUPURNA VEDBRAT: I'm sure, like other firms are probably in the same boat, but like

resources are being allocated to work towards the deadline the rules. And, you know, without further guidance and with the June 1st date outstanding, you know, my concern is that there is going to be diversion of resources to accommodate this rule. Futures is a very, very important part of our business and we will be in compliance. Don't know how, but we will be in compliance. And that's going to take away for us actually to be getting ready for swap clearing and increase our voluntary clearing that we do today.

CHAIRMAN O'MALIA: That's a very good point. We have burned a lot of thought about the industry and haven't been very clear about schedule and implementation plan. So this, Hugh, if you take this back, and I know you will, share with them the comments and concerns about what is going on.

We obviously have a full record that we will make aware back at the Commission. But in order of priority, it would be obviously helpful for us to figure out what it is that we want the industry to do first, second, third. And I think if we can be clear about that, then they'll know and compliance will be a lot easier for everyone.

So please join me in thanking Hugh for stepping into this one, when this was not necessarily his doing, but we obviously have to figure out a solution and some relief, either one. But going forward we have to come up with one or the other, so thank you very much for doing this, for standing in for John.

The last issue is Rule 1.74, we don't have critical mass, we don't have any balance at this discussion so it's not fair to have it, but it is a frustration of mine. Largely on a process issue, this is an issue that ten days before implementation, Ananda put out an e-mail, apparently, that told everybody that technically feasible, as if an electronic or automated system were in place, actually meant two minutes.

And we're not sure where two minutes came from. I don't know that that's the wrong number. We haven't been aware of it and in the rulemaking process, the Commission's level was completely different. So it was obviously news to the Commission, news to the market as well and we knew full well that the market wasn't ready to comply with this at the same time.

So recently, as of Friday, we issued eight no action letters. And whether it actually provides no action or provides an implementation, that too offers is there a technology solution, is there a technology problem that we need to solve.

So I've had my piece, I've said it in the paper, I've said it here and it's an issue. This is a rulemaking process with certainty. It's not as much a technology solution. But for a few companies we are being told it is. So I did want to bring it to the table here.

And I know with have a number of experts and folks that have a view on this. And I think I would like to go around the room so everybody has the opportunity to put your thoughts on the record, if you want. And it's, again, we don't have some of the people who are primarily affected by this, so I don't want to call this the end all and be all in terms of debate, but if anybody wants to add to this, then they are free to do so.

MR. CHRISTOPHER EDMONDS: I'll start. I don't know where two minutes came from and I'm not going to express an opinion right or wrong. I will say that we are far less than that today in our

operation. There are plenty of examples of folks who use ICE credit, we are voluntarily clearing that right now. They know what that experience is. It's measured in a small number of seconds.

We did send Ananda a letter, there were three specific cases in which, because of some other concerns I'll get into, three specific cases where we felt like there should be a third status. You know, you can accept, you can reject or there is possibly this idea of pending, but the pending should be found to be such a small number of cases, that it's statistically a nonevent.

And those three issues, and we talked about them in a couple other instances today, one is if someone has fat fingered a number, we talked about that earlier in the presentation. And that could be a price or in the second case it could be volume number. Do we automatically reject that? Maybe.

And if you are a buy-side customer and I automatically reject that as a clearing house and that trade fails, in the time it takes you to go back because instead of entering 1,000 you entered 10,000 just to make up numbers for illustrative purposes, the price of you doing that transaction

has now moved because the market moved, sorry.

So those are the first two cases, price and volume. In the third case, especially in trying to be somewhat forward looking and planning how clearing houses in a fair and open manner would support the idea of a SEF or some electronic venue coming in that wasn't part of the internal ecosystem that you might see in a futures vertical model. You could see a case where there were pair trades that came in where, for whatever the reason, you get all the buys, it kicks the end client account over the limit and you got none of the SEF's.

Let's say you got 200 trades and that first trade to come in were 100 buys. Now, I know I have another hundred trades for this account pending -- or in the queue right now. Instead of getting that immediate answer of the next trade to kick it over the limit of accept or fail, maybe I should wait and process all these and put them at pending status again. Expect this to be a very small set of instances, we plan to measure that and give those statistics out.

But outside of that, the rule is what the rule is. We operate that today and I know there are

others that operate that today. So fundamentally I don't think that this is a technology issue at the end of the day.

From my perspective and my concern about is it I don't know what message the Commission is sending. But at the end of the day every time a deadline is set, we run up to the end and you just file a bunch of letters and the next thing we know we get some sometimes haphazardly issued exemptive relief or interpretive letters come out where other firms have spent a great deal of time changing their priorities, changing the investments they make, launching different products to get there, that weren't on our schedule. They weren't merchant issues that we made, they were our reaction to the rules that were coming out, for it not to even matter at the end of the day.

So I guess my question to the Commission, and since you get to sit there and represent that today, Mr. Commissioner, is, you know, give us some guidance on that issue. Should we just not care anymore? Should we just do what's in our best interest, plausible interpretation of the law and go forward? There are plenty of examples of where, I

know the staff is extremely stretched, I know that what they've been asked to do, especially as we stare down certain trigger dates that we came to in this past month, have been difficult and they're human. And I would challenge many of them, if they wouldn't admit they made some mistakes on whether it was FAQ's on certain issues or whatever.

But as a commercial entity, a regulated commercial entity with plenty of regulators to go around, I don't know how to reconcile that and I don't how to manage that issue going forward. So as I relate to these issues around 1.74, to me this is the biggest part of that issue, what message are we trying to send?

CHAIRMAN O'MALIA: I can briefly state, we don't want to be in the position here of the emperor has no clothes. We can't implement standards or understand the market well enough to set standards that are realistic and not taking credit or having our credibility as regulators, there is quite a bit at stake for us.

We certainly don't want to be off setting standards where we can't even offer relief as is the case with the DCO in this situation. And we just

don't have the exemptive authority. So I don't know where that leaves us with two minutes.

MS. SUPURNA VEDBRAT: We have a couple concerns with 1.74 being implemented in the timeline that has been laid out and also the two minute. I think that it's important to understand when trades are auto rejected or rejected, the swap model is a default model.

So what that means is that for whatever reason and FCM may have an issue on their front or whatever, due to which we are not able to accept the trade and it gets rejected, that trade break results in a market loss for, you know, the client on that side or the client that's causing that break. And that should be a consideration on the timing of implementation.

The other piece of it is that as far as I know about the technology supporting this trade work flow, it doesn't have a way, once the trade is rejected, for that trade to be resubmitted. So once it's rejected I don't know what we're supposed to do. The middle level providers don't have a way for us to very quickly resubmit it.

And then the third piece of it comes back to,

you know, the conversation we were having around credit limits. The clearing members, in general, and I don't fault them for this, in order to protect themselves from their ability to clear, may provide, you know, very small limit to client or very large limits. And both ways, it doesn't really work.

Because, you know, if they have been forced to guarantee a trade that will be auto rejected within a very short time window, those limits of ours are going to be set to a point that without any type of risk management they will accept it or they consider the client to be strong enough that, again, the limits would be set much higher.

So you know, as we are setting these, you know, two minute or less than two minute timeframes, I would appreciate it if they could take into account what the direct impact of the buy-side would be.

MR. CHRISTOPHER EDMONDS: Supurna, let me ask you one question. If you had the ability, and through a middle ware or whatever the functionality is to where if something, for example, the price or the volume limit was too great and you got that immediate answer and maybe the immediate answer is

rejecting and a pending status, because the system believes that this trade has been obviously entered erroneously, either price or volume. Likely the two largest things that would trip you over a credit modulate, right, unless there was some issue with the account?

MS. SUPURNA VEDBRAT: You know, I think this rule applies to fully automated trades. So our expectation is between the way we have our system as well as, like SEF's when they come into existence, the fat finger checking will already have taken place so you won't reach that point.

Coupled with if we do have 1.73, the credit limit check, will have also taken place for the size. Price is different, price is going to be inside of whatever we're trading on a central limit audible or if RF's are also in place, it's competitive pricing. So I'm not that worried about the price or the order size check.

What I am worried about is if you have a situation which is a market event that has increased the volume of trades which would cause a backlog for FCM's and we don't have the ability to accept that quickly. And then we are basically locked out from

being able to take the right risk positions to manage that credit event.

MR. CHRISTOPHER EDMONDS: Is that more of a concern than a potential replacement cost for some of those?

MS. SUPURNA VEDBRAT: It's not replacement, it's market loss. It's a little bit different than replacement loss.

MR. CHRISTOPHER EDMONDS: You still have to get the risk back to where you want, whether you call it replacement or market loss, there is still a marketplace function to reestablish that position in whatever environment you find yourself in.

MS. SUPURNA VEDBRAT: But in this particular case we actually have to isolate it because we could have some form of pair trades, the other one went through, so then this one is by itself. And we don't know the timing of the break. It's not that this happened in less than 120 seconds, my trade broke, I know it and I can establish the next position. That online component of it can take a while.

So until that unwind has taken place with the other side, which will have a step in the middle,

you actually don't know what the status of your trade is. You just know that you have exposure to the market limit.

MS. KIM TAYLOR: And that factor there is what we hear the most from clients about their concerns about the trades being either accepted or rejected promptly, as opposed to going to a pending status promptly. Because if you happen to be the side of the trade that was accepted and the other side of the trade is hanging out there and there is no knowledge about whether it's accepted or not, you don't know if you have your trade or not for some period of time.

And so we're not insensitive to the issues that you raised about the fact that there could be -- it sounds like what you are trying to do with the pending status proposal, we've tried to do with automated replay. So if the trade gets rejected, we have a tool that allows us to replay the trade to the same clearing member, if it was a timing issue or to another clearing member of the client's choice if it actually was a credit rejection, to allow the trade to have another chance to clear promptly before it would need to be potentially broken.

MR. CHRISTOPHER EDMONDS: I don't think we have a big Delta now. I was just trying to make sure I understood what Supurna's issue was. I guess my big philosophical question is, if it's soon as technically practical in this case, as the letter says, and it's two minutes, one minute or 30 seconds, whatever, I don't believe any of the examples that we're talking about here are the normal.

All of these examples, I think, are the exception. I don't see that many breaks on a daily basis. I'm a little bit concerned that we are going to try to find a way to write the rule and I think if you look at the debate we had at 1.73 it's going to be a very difficult medium to find if we are going to be able to handle all these edge cases that come to pass.

I submit that we should find some way to work together, but we don't have everything figured out each when defaults happen. We spend all wee hours of the morning trying to figure out what's best for the industry in that case.

So I guess maybe my question is how frequent is this environment going to happen?

MS. SUPURNA VEDBRAT: Chris, we look at, you know, clearing framework to be an insurance policy against the unknown. So if it's one time and it's that one unknown that causes this rejection trade and we end up with a huge market loss, or you know, we have that market event that basically puts so many trades to our FCM that they're not able to clear our trades and because of that we are not able to lay off risk or close out our positions, the clearing system will have failed.

I think that we don't mind the technologically the timeframe being defined. It's the forced rejection piece that we have concern with. If it was a system where you are closely monitoring it as a clearing house and, you know, there could be penalties or whatever for taking too long to clear, that is completely acceptable because we all want that time to be as small as possible under all market conditions. The auto rejection is where we have a problem.

MR. CHRISTOPHER EDMONDS: I think maybe we are in agreement. I have a problem with the auto rejection the way we did it. I don't think lack of the auto rejection or if you would accept there

should be no auto rejection, that means you are going from two minutes to two hours and I'm not suggesting we're there. I'm not suggesting that's where you are. I'm just trying to figure out.

MS. KIM TAYLOR: And we built for auto rejection. And the reason that we did that is basically because most of the client feedback that we heard and, actually Supurna, I would have thought that in your position this would the issue you would be more concerned about than having your trade rejected, is that whoever you traded with their trade is not accepted.

And right now, while it's dealer to dealer, that's probably not an issue. But when you talk about SEF's and if SEF's allowed for there to be the execution that is anonymous, I think you could end up finding yourself in a place where your trade is accepted and the other guy's trade is sitting out there for whatever the timeframe is.

And at some point that becomes a problem for the party on the other side of the trade. At some point it becomes a problem for the clearing house and its own risk management because at some point the guy whose trade is accepted, we might need that

trade to be accepted to reduce that customer or that clearing member's exposure and the other side of the trade is not being acted upon promptly. And perhaps if it were to be rejected and resubmitted to another clearing member, it would be accepted. Or perhaps if it were -- if there was a time limit on the transaction then at least that forces the conversation between that party and their clearing member to make sure that the transaction is understood so that it can be properly acted upon.

I know it's not a good comparison, because the markets are very different and the market participants are very different, but in the energy markets, we have seen that there are very few exceptions to the -- very few trades fail on credit because people know what the limits are.

My understanding is that FCM's have, by and large, built systems where the clients can see what their limit is and monitor the usage of their limit so the client would know, before they executed the transaction, one of these bundled package trades that we talked about, that if there was a risk of all the buys getting in and none of the sells, you might want to have a conversation with the clearing

member first so that they at least know that there is a package coming and agree to take the risk of the package in advance.

So I think there are other tools to be able to manage it. But the concern that we have is just the length of time when there is uncertainty.

MS. SUPURNA VEDBRAT: On the question about like the other side's trade not being accepted, fundamentally right now what we believe is this applies to actually automated trades and we haven't seen the SEF rules yet. And I guess optimistically, we are hoping that the governance rules attached to SEF execution is going to make sure that anybody who is executing on that platform will have either, you know, strong clearing member guaranteeing the trade or is going to have certain standards in order to execute.

So if there were a situation where one side is accepted and not the other, it goes back to the market loss, would be the other party's responsibility and we'll keep trading. We'll assume that this trade is broken and we'll go and trade to get whatever we want.

MS. KIM TAYLOR: But at what time will you

decide the trade is broken and keep trading if there isn't a time certain language that the trade will either be accepted or not?

MS. SUPURNA VEDBRAT: The time will be there, just that we don't want an auto rejection. So the time will be there and we will be monitoring anything that is traded will more than likely be instantaneous and on our RFQ will then be --

MR. CHRISTOPHER EDMONDS: Your issue is on risk, you want to make sure everyone knows exactly -- I think you Supurna has the same issue. She wants to know I am either on risk or I now have the insurance, one way or the other.

MR. CLIFF LEWIS: How would know to vacate if one side doesn't settle, then you don't have a trade.

MS. KIM TAYLOR: Two sided trade, both sides have to be accepted before the trade is accepted for clearing. So that's why I think the concern that we've been hearing a lot about from clients is that they want to know, with certainty, when the trade is accepted or not, so that they know if they have to replace it or they know --

MR. CLIFF LEWIS: Hence the need for quick

timing, irrespective of what's legal or not. I know that, again, there is a request for, quote, capability and there is a last look capability on the part of the person quoting. But we define it so that they have, in this case, half second to two seconds, to basically reject the trade in which case you can see that on the screen.

And we put out statistics so that you can see proactively how often the guy you're dealing with has not made good on the price he showed. And if it gets too high and by high I mean he's rejecting 20 percent of the time, you kick him out of the roll.

And that can be some of the differentiation between different SEF's, how you present that information about the reliability of a counterparty. And in our world typically has nothing to do with credit, but as long as you don't like the price you got get out. So the guy reconsiders it, gee, I was just kidding about that, I'll do that.

But I think that the more that you move to something that -- that doesn't give certainty, the more knock out affects that you have because typically if you think of Supurna 's world as a world of buy-sides, for them one of the attractions

of the world you're outlawing has been the sort of slow pace and the way it's compatible with their frankly overnight risk management system.

So guys doing pretty basic stuff with this OTC stuff, he's adjusting duration a little bit, can get more complicated for different players, but the reality is the whole world has got to move incrementally a little bit, the whole thing isn't going to go. And I think you create much more mischief if you don't stick to your guns, irrespective of whether it's legal or not.

MS. KIM TAYLOR: And acknowledging that the technology was in different places at different firms in this new market, we built quite a lot of technology support ourselves. We have automated limits that you can set with a credit limit. We have automated acceptance rules that you can set. So for like your house, if you are going to accept all the trades for your house, you can set an auto accept without a credit limit. And we have an API that will feed the trade into your risk system so you can make your automated evaluation and send us back a message.

And using a combination of those three

mechanisms, since whatever the date was, October 1st, not all, it's not 100 percent, but I would say virtually all, the vast majority of the transactions that we've cleared, thousands of transactions, have been accepted probably in under -- actually the vast majority have been accepted in under half a minute. But clearly almost all of the transactions have been accepted within the two minutes that had been declared the interpretive time.

So we haven't set up the auto reject feature. And certainly if we were setting it without the reg interpretation, our times might not be two minutes. But I think we have heard a lot of feedback from the industry that it is very important to know with certainty that the trade is good or not, so that if your side gets rejected you can find a new home and not be subject to breakage.

And if it is ultimately not accepted the other guy knows has got to replace the trade.

MS. SUPURNA VEDBRAT: So are we saying if it's auto rejected no trade exists? Because that's very different from if it's auto rejected and there is like our interpretation, we've executed a trade, the economics of the trade go on the moment you

execute it. When it clears the trade the execution is complete --

MR. CLIFF LEWIS: I would think so, Supurna.

MS. SUPURNA VEDBRAT: The auto reject means I have no risk because it's auto rejected, so I can keep doing what I'm doing. That's a different discussion.

MR. CLIFF LEWIS: You need certainty. And the whole thing doesn't work if you don't do that quickly. The worst answer, we've known this for everything is, I don't know whether I'm done or not. And we've seen that in the market, too. You can't go there. It just doesn't work.

And the other thing, you know, when we begin to think about this, let's take a hypothetical example. Let's say there is a union of countries that is having difficulty and people drop out of the currency zone, just hypothetically. Think about what that market will look like. Are people going to want to know if they're filled? You bet they are going to want to know. You want to create ambiguity about what is going on.

We are accustomed now to this zero interest rate environment, people forgot what it was like

when things were moving around. A lot of guys are waiting for that to come back. But you can't have this stuff hanging out, because I think it's a death sentence on the cleared swap world. So why in the world would anybody go into the swap world if you can do Bespoke and, by the way, they may have zero var, thank you very much or you can go in the futures where at least you've got limited product set.

We have an a bunch of customers who said, I'll take the tail risk all day long over, among other things, CFTC risk.

CHAIRMAN O'MALIA: Randall, I see you sitting down there. Might you have an opinion on this?

MR. RANDALL COSTRA: I would like to, just to address the very specific request that was raised here about whether there is a trade or not.

In the bilateral world today, bilateral trades, clear trades, are being done subject to an execution agreement. And that execution agreement, in the case Supurna raised, it would be a resubmit because that agreements requires the parties to do what they can to try to save the trade.

In a future world where we have execution,

the execution venue can say no acceptance, no trade. Particularly thanks to the market discipline that the straight through processing rule is helping to bring about, namely realtime acceptance. So I think in a way I'm covering the middle of all of this.

Right now the requirements, and with respect to the Commissioner, there has been a very intense dialogue about what straight through processing means. The 2 minutes and 60 seconds didn't come out of nowhere. The industry benchmark was set in production trades last December, in 1.9 seconds in production for an execution and clearing. That was cited in the rulemaking.

In the final rulemaking it was made clear that what was relevant was going to be what was the industry standard. The practical experience that we have since October 1st, shows that by and large this is not a technological question.

So where we get to at this stage already is there are hedge cases. You don't set good policy by driving from the edge cases. You figure out what the good policy is. That's always been sorted out, what the benefits of straight through processing, including creating a sound foundation for trading.

CHAIRMAN O'MALIA: Then why would we set a standard we knew couldn't be met.

MR. RANDALL COSTRA: There are different pieces of it. The standards for the FCM's, you just heard sound evidence on thousands of trades that it was met.

CHAIRMAN O'MALIA: But it's not met by everybody. We haven't had -- this is where I didn't want to go, because we don't have this other side, the folks that are having -- that sent the no action requests and are not in compliance with this regulation. So I'd really rather not go there because we just can't complete -- we can't complete this circle. So I'm --

MR. RANDALL COSTRA: If I can give one response to that. Sometimes in rulemaking you have to set what the standard is. And people maybe don't want to comply, but you have to bring them along.

CHAIRMAN O'MALIA: Well, all right, there is another side to this.

MR. RANDALL COSTRA: I understand, but everybody in this industry has been on notice that STP means immediate from March 2011. The customer protections rulemaking, the Commission set out that

there would be immediate acceptance of executed trades. In August last summer, the scope of trades extended beyond self executed trades to all trades redefined -- restated the standard. There was an extensive comment period last September and the rule finally became final in April. And we have a seven month run up to October 1st.

all ready in October a bunch of market participants were in dialogue with the Commission. When the group came to 1.73 it was stated we understood to staff, that there were going to be no problems with complying with the STP rule. And I think we are seeing the evidence that nobody had any doubts with what realtime acceptance straight through processing meant. ICE didn't need an interpretation to find out that it was the three seconds they are doing today.

MS. SUPURNA VEDBRAT: But Randall, what needs to be linked is the execution and clearing. That single trade doesn't exist. It's have a very simple conversation. If the trade is rejected and there is no trade.

MR. RANDALL COSTRA: I'm not debating with you the specific point about whether there should

auto reject or not.

MS. SUPURNA VEDBRAT: No, what I'm saying is if auto rejection means that no trade existed, which is what Cliff said, and I think you clarified that your interpretation when we trade on a SEF, just to make it simple, and no trade exists, that piece of it, I think we need to see that in the rule writing or in some form of interpretation that the trade doesn't exist.

Because that's the point that we are trying to make is that you have to understand what your risk position is.

MR. RANDALL COSTRA: I disagree the Commission needs to take action. The market will probably do it by itself as we get use to what is already the new normal.

CHAIRMAN O'MALIA: We took action to say what two minutes was.

MR. RANDALL COSTRA: Right, I think that's enough. In other words --

THE COURT: Why wouldn't you finish the debate?

MR. RANDALL COSTRA: Because I don't think the market would be too happy for you to legislate

-- I would be delighted for you to say since we now have straight through processing in this market, there is no acceptance, there is no trade, I would be delighted. The swap dealer desks have insisted, at least in the bilateral context on certainty, quote/unquote pre execution. This is actually the consensus that was reached in the 1.73 conversation.

CHAIRMAN O'MALIA: It's funny how much consensus we have, yet we just issued a no action relief.

MR. RANDALL COSTRA: We had what you guys are calling immediate post execution acceptance, which is now being calibrated in thousands of trades as seconds. That would be good enough for a vast party. And then if we were to couple that with no acceptance, no trade; no harm, no foul, that would be great. The torture we've lived through in the FIA is the process. And I'm not complaining, we all have different perspectives, is that some insist on pre execution controls which leads to fragmentation.

If instead we follow, for example, the energy market example, the straight through processing rule alone gets us to the place where we can now build electronic execution and we don't have uncertainty.

MS. SUPURNA VEDBRAT: Could you walk us through, if you are trading on a SEF, you've hit the button to execute, is it going to wait whatever if it's 60 seconds or two minutes, for the acceptance to happen before it says you're done?

MR. RANDALL COSTRA: Today, I sit with our traders, we do bilateral trades. It's not 60 seconds or 120 seconds, it's individual seconds. And the standard is as quickly as technologically practical.

We could well get to the point that the entire energy industry has been comfortable for 10 years where people don't need documentations, don't say we saved the trade, where basically the trade is done on a SEF. And if you got an immediate rejection, my traders would rather not turn to their lawyers and litigate breakage, they would rather just take the next trade on the book.

MS. SUPURNA VEDBRAT: But that wouldn't be your standard trader. So that's why you need to know when you're executing are you done, are you not it goes. But if in that time period it accepts the trades or it doesn't, that's very different.

MR. CLIFF LEWIS: I can speak to the rule

book, which we spent millions of dollars, and I hope that some day will conform with whatever rules in their wisdom the Commission put out. But in our rule book either you are filled or you're not filled. And that's for RFQ or for CLOB. And it follows the practice we have in the FX market.

If the Commission tells us that's illegal, we'll obviously adjust to say, well, you're filled maybe or not, depending on the next decision of the Commission.

You know this is an area where, shockingly, you might have competitive juices apply different models. Obviously the clearing houses have to decide some kind of minimum standards, as far as how they would operate. But, again, I think that one of the ways in my business people differentiate different platforms is by, believe it or not, customer experience. I don't mean to be a smart aleck about this, but customer experience actually has a lot to do with what you see is what you get on the screen.

MS. SUPURNA VEDBRAT: And that's fine. If the rule book of the execution platform guarantees that, you know, if the trade is on or not, that is

completely fair.

MR. CLIFF LEWIS: And in our world, if the counterparty goes walkabout, he has X-amount of time to confirm or it's done. You are dk'd, you're not filled. That's way it's got to work. Same thing if you get disconnected, there is a lot, especially today, you have to worry about what happens when the lines go down and what about your resting orders and all of this kind of stuff that people at the exchanges have spent decades working out since the advent of electronic trading.

And a lot of that you can borrow for this, I think, the differences that a little bit of tweaking on the edge, please, I think -- I don't know where the Commission -- I feel your pain, obviously, because everybody, many of the people here, are spending tens of millions of shareholder dollars, as Chris said, that they would much prefer to spend on other things trying to guess what the end state is going to be or by optionality, so whatever is decided we can conform with.

So the sooner this stuff is known, the sooner we can get on with it.

MS. KIM TAYLOR: We are trying to build to

what the reg says in the timeframe that the reg laid out.

MR. CLIFF LEWIS: That's the worse, Kim. I agree with you, I agree with Chris. The worse is if you played by the game, you spent tens of millions of dollars and somebody else comes out and says, well, you know what, I didn't do that, so I would like to be exempt from it. And I'm sorry that they are not here because I would be happy to tell them I'll see them next week, I'll tell them.

MR. CHRISTOPHER EDMONDS: Mr. Commissioner, I know you have another topic you want to go over and I don't know that we are going to solve all this today, but it does seem like there are a couple cracks at that we're going to get if and when there is ever something called a SEF in a rule and I know that's sensitive to a lot of people in the room, but time will tell if that.

But, I mean, certainly there are ways to address some of those pieces at that moment in time. I can't imagine a world in electronic communication where you have a transaction entered and that transaction entered and somebody gets that 60 seconds on the walkabout or whatever.

I think the whole idea around there are going to be certain limits resting, some certain level of risk management on these execution venues. And I think you have been pretty clear on your comments in the past, it ought to be a pretty high bar for these entities that are going to be recognized as a SEF in order to do that. I think there are parts that we are going to have to address at that point.

Because I think we are trying to make sure that we don't let the pendulum go too far the other way, notwithstanding the exemptive reliefs that you may or may not have provided and what it may or may not provide. Because we all know this is looming and we all believe that is looming. But we also all believe it's a year or so out and whether we ever get there, I guess, went along with November 15th when everything is sorted out and there are 4000 new pages of documentation we can go through.

CHAIRMAN O'MALIA: Maybe a couple hundreds pages or a hundred pages. I don't have another topic, I think we've thoroughly exhausted the topics here before us. I think today was a great hearing in terms of what we put on in a very condensed amount of time to talk about all of these topics.

And I'm very impressed with the working group efforts. They did not disappoint. We had had some great discussions, great topics.

The next set of meetings, we will think about when we are going to do those. I would like to do it the first quarter of next year. And bring together the recommendations of the working roups and marry them up with some of the policy discussions we had in Group 2, 3 and 4 and figure out how we can bring those together and do that gap analysis, marry that with the existing and proposed solutions and figure out where we want to be at the end of the day. And what's left, where are the holes, where do we have redundancies, et cetera.

So I'm going to be in communication with the TAC. We are going to talk to the chairman, we are going to talk to the other commissioners, talk to the staff a little bit about what their thinking and timetable is. There is this concept release that's looming. Andrei has had the pen for a number of months on that. And when he left he said today was a great day for that discussion. I don't know what that means.

MR. CLIFF LEWIS: Probably not good.

THE COURT: So we're going to take the pulse of the Commission a little bit and think about where we want to go and I'm not disbanding the working groups, I'm keeping them. I want to continue to draw on that expertise. They put way too much on the table to walk away from, so I think there is more to be had.

And to have that dialogue from the working groups to the Technology Committee and up to the Commission is the process we need to do and see that through, so we'll be in touch is the best I can give you right now.

And, frankly, I'll be in touch with TAC members and subcommittee members as well to get their thoughts as well on how to proceed and their thoughts going forward.

So I greatly appreciate everybody's extra efforts to get to Chicago from the East Coast and I know it was hard and difficult for many of you, so I greatly appreciate that and the participants on the phone and we will certainly keep the people in mind that might be sitting in the dark and wishing they spent all day in a conference room like us. So with that, we are adjourned. Thank you.

(Ending Time: 4:07 p.m.)