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MEETING OF THE CFTC  
TECHNOLOGY ADVISORY COMMITTEE

TRANSCRIPT OF PROCEEDINGS  
Washington, D.C.  
March 29, 2012

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APPEARANCES: (cont'd)  
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MARK WETJEN, CFTC  
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JOSEPH SALUZZI, Themil Trading, LLC  
LARRY TABB, TABB Group

1 P R O C E E D I N G S

2 (10:10 a.m.)

3 COMMISSIONER O'MALIA: Thank you very  
4 much. Thank everybody for attending and  
5 participating. We have kind of a three-ring circus  
6 here today. We have the full TAC committee members  
7 sitting around the table. We have the Data  
8 Standards Working Group on our left and we have the  
9 new High Frequency Trading ATS Subcommittee on my  
10 right, and we're going to have a series of three  
11 panels here today. So I greatly appreciate  
12 everybody coming today and participating and we'll  
13 get the fifth Technology Advisory Committee off to a  
14 start here.

15 We've covered a variety of issues thus  
16 far, including pre-trade functionality. One of our  
17 first groups, Dr. Gorham helped us establish that  
18 working group, the first working group we ever had.  
19 We've had the SEF Showcase, and now we're going to  
20 tackle high frequency trading in addition to the  
21 work that the Data Standard Subcommittee has  
22 presented us today.

23 Despite its ubiquitous utilization in our  
24 markets, high frequency trading is not only -- is  
25 not well understood by the public and the relevant

1 regulatory bodies, as I believe it should be. So  
2 that's one of the reasons we're going to tackle  
3 that.

4 Today's discussion will cover three  
5 different topics. Our first panel will discuss the  
6 role high frequency trading plays in our markets.  
7 Working with our chief economist, Andrei Kirilenko,  
8 we have selected 24 individuals to participate in  
9 the new subcommittee on automated and high frequency  
10 trading, and hopefully over the next several months,  
11 depending on their work product and time tables, we  
12 can have much better clarity into the practices and  
13 the definition into this -- into this area.

14 The second panel will focus on the final  
15 recommendations of the subcommittee on data  
16 standardization. As I have said before, data is the  
17 foundation of our markets and essential to  
18 supporting our transparency requirements. Our  
19 ability to capture market data is -- in a universal  
20 electronic form is essential to automating our  
21 surveillance and oversight programs.

22 The third panel will explore the  
23 deployment of technology solutions in the swaps  
24 market with a specific focus on evaluating the costs  
25 and technological and scheduling challenge posed by

1 fully integrating pre-trade credit checks by October  
2 1, 2012, as a technological substitute for  
3 documentation. In particular, I'm interested to  
4 understand how the industry will develop a seamless  
5 interconnection of FCMs, SEFs, DCMs and CCPs to  
6 ensure that trade -- trades come off without  
7 breakage.

8 Technology has been the true driver of  
9 change in our markets and continues to dictate its  
10 evolution. Automated and high frequency trading  
11 strategies have narrowed market pricing and provided  
12 liquidity. The Commission's challenge, however, is  
13 to ensure that as markets evolve, the Commission is  
14 able to keep pace and develop oversight and  
15 surveillance capacity to ensure markets function in  
16 their appropriate manner.

17 There is little empirical data regarding  
18 the impact of HFT strategies on market pricing and  
19 overall market behavior and better data and standard  
20 definition of these market behaviors must be  
21 developed. It seems on a weekly basis there's a new  
22 story about automated trading and high frequency  
23 trading. In fact, today in The New York Times I  
24 read Nathaniel Popper's story quoting Richard  
25 Bentley of Progress Software, and many of you know

1 Progress because John Bates serves on the  
2 subcommittee. He could not make it today. And Mr.  
3 Bentley said, we've managed over the past several  
4 years to equip traders with Ferraris and the  
5 regulators are trying to keep up with them on  
6 bicycles.

7                   Recent headlines have announced the FIA  
8 Principal Traders Group and the FIA European  
9 Principal Traders Association developing  
10 recommendations on procedures for the development  
11 and testing of deployment of trading software. Last  
12 week the UN Conference on Trade Development  
13 published a report which purports to demonstrate an  
14 economic correlation between high frequency trading  
15 and distorted commodity prices.

16                   We also witnessed the impact of -- poor  
17 computing coding can have on a market with the  
18 unfortunate computer glitch associated with the IPO  
19 of BATS on its own exchange. And on Tuesday I read  
20 that the EU is considering a definition of  
21 additional controls on HFT strategies as part of its  
22 Method 2 proposal, and they have four to five  
23 different proposals, very specific in that paper.  
24 And Markus Popper, the lawmaker who -- or Markus  
25 Ferber, who is the lawmaker steering that proposal

1 through, has advocated also a 500-milisecond resting  
2 period for ATS orders.

3           There are definitely strong opinions on  
4 both sides of the HFT debate, and on both sides of  
5 the Atlantic, for that matter. In an effort to  
6 undertake and define this practice, last November I  
7 sent out a letter to the subcommittee members, or  
8 the full committee members, asking them for their  
9 opinion and definition of HFT. And as I noted  
10 earlier, I have asked Andrei Kirilenko, the chief  
11 economist of the CFTC, to lead a subcommittee to  
12 develop an appropriate definition in the -- of HFT  
13 within the university ATS, the Automated Trading  
14 Systems.

15           My goal is to have a working description  
16 of the attributes of HFT in order to better  
17 understand the impact they have on our market.  
18 Developing a nomenclature is important, if only as a  
19 means to study the trading activity on a consistent  
20 basis. Working with Andrei, it is up to the  
21 workings groups to establish their own working  
22 schedule and meetings and to develop recommendations  
23 for the full Technology Advisory Committee to  
24 consider within the broad parameters of that  
25 subcommittee.



1           I have also requested that the Securities  
2 and Exchange Commission, working with Chairman  
3 Schapiro, to send staff to participate in these  
4 working groups, as well to ensure full coordination  
5 by our two agencies. And we are pleased to have the  
6 participation of Dan Grey and Mike Watson from the  
7 SEC.

8           Today we will hear from four witnesses to  
9 kick off our debate on the ATS/HFT debate. And I  
10 have three goals in mind for today's discussion.  
11 One is to establish -- to establish the existing  
12 exchange oversight and controls monitoring of HFT  
13 activity in the markets today. We have Dean Payton  
14 and Mark Wassersug. Dean Payton from CME, I'm  
15 sorry, and Mark Wassersug from ICE will identify --  
16 will testify regarding what each exchange is doing  
17 to manage trading on their respective exchanges.

18           Second, we will evaluate and discuss the  
19 current state of economic research regarding  
20 identifying and analyzing ATS behavior and their  
21 economic impact, and we're pleased to have Joel  
22 Hasbrouck, who will provide an update on the current  
23 economic research as well, from New York University.

24           And third, identify the attributes of ATS  
25 strategies and the firms and to the extent in which

1 they participate and impact futures markets. Sean  
2 Castette from GETCO will provide his perspective on  
3 ATS/HFT strategies.

4 Before I turn to my colleagues for their  
5 remarks, I want to let the members of the TAC and  
6 the two subcommittees know how much I greatly  
7 appreciate your service. I remind my colleagues  
8 that everybody here is serving -- has a full-time  
9 job and is serving in -- using extra time and taking  
10 time away from their families and their jobs to come  
11 support our efforts to understand these markets  
12 better.

13 I personally have benefited enormously by  
14 your participation and your influence and your ideas  
15 and I greatly appreciate that and I know the  
16 Commission policy will be better served through your  
17 support. I do want to recognize, and I think I said  
18 earlier, we're a little early for the data standards  
19 guys. I think they're coming in after lunch, but  
20 they have put in an enormous amount of work and  
21 effort doing calls that have been open to the  
22 public, but have worked extremely hard to put  
23 together four working group papers that will be  
24 presented here today, and we greatly appreciate  
25 their service.

1                   Recognize everybody on the HFT, the 24  
2 members who are going to participate in that. We  
3 greatly appreciate your time as well. And I want to  
4 also thank our staff facilitators, and probably the  
5 best time to recognize them, we have -- if you'll  
6 just stand up, so we need to make the link between  
7 the HFT Working Group and our staff. On Working  
8 Group 1, Joan Manley and George Pullen. On Working  
9 Group 2, we have Harry Hild and George Herrada.  
10 Working Group 3 we have Andrei Kirilenko, Richard  
11 Haynes and Jeremy Cusimano. Working Group 4 we have  
12 Andrei Kirilenko, Richard Haynes and JonMarc Buffa.

13                   Right after lunch, Andrei, I think, is  
14 going to lead a brief meeting to make sure we --  
15 that we're able to get the staff with the working  
16 groups so you're familiar, you can exchange contact  
17 information, and begin to lay out a strategy for  
18 your meetings and time table. So I appreciate  
19 everybody's cooperation, willingness to come and  
20 participate today.

21                   I'm going to turn it over to the chairman  
22 for his comments.

23                   CHAIRMAN GENSLER: Thank you Commissioner  
24 O'Malia, or should I say Chairman of the Technology  
25 Advisory Committee, for convening this meeting of

1 the Technology Advisory Committee, and also  
2 convening the first meeting of the Subcommittee on  
3 Automated and High Frequency Trading of the  
4 Technology Advisory Committee, if I got all the  
5 words right.

6 I also want to thank all the members of  
7 the full committee and all of the members who are  
8 willing to advise us and serve on the High Frequency  
9 Trading and Automated --

10 COMMISSIONER O'MALIA: It's a mouthful.  
11 ATS/HFT, whatever you want.

12 CHAIRMAN GENSLER: Well, being willing to  
13 associate yourself with the word "high frequency  
14 trading" in itself is a really interesting thing.  
15 So we applaud that. But financial reform means the  
16 Commission must continue to adapt our oversight to a  
17 changing market structure, including emerging trends  
18 in electronic trading, and you've been talking about  
19 that for some time.

20 But of course in the markets, one thing we  
21 can be quite sure of is that means of communication  
22 and technology will continue to advance and affect  
23 our markets. This was true in the 19th Century when  
24 telegraphs came along. It was -- it led to the  
25 introduction of the ticker tapers we all know. It

1 also is true in the 20th Century when telephones  
2 first allowed a central quote system where market  
3 participants could get instantaneous bids and offers  
4 at that point in time. And I'm sure there was a lot  
5 of debate and controversy at that time.

6           It was further true during the last decade  
7 when futures markets went from largely open outcry  
8 to now nearly 90 percent traded electronically. So  
9 where market makers used to meet on the floor of  
10 exchanges, they now often sit at computers miles  
11 away or even in another continent. And while market  
12 participants used to be involved in each of their  
13 trades, they now often rely on algorithms to execute  
14 those trades.

15           So humans are much more frequently relying  
16 on the judgment programmed into their machines,  
17 which will then initiate and execute their trading  
18 strategy. The markets have evolved to where we  
19 increasingly find machines competing with each  
20 other. So regulators, I believe, cannot assume that  
21 the algorithms in the markets are necessarily well  
22 designed, tested or supervised. Our regulations  
23 have to adapt as the markets increasingly move from  
24 man to machine.

25           Only through adaptive regulation can

1 hedgers and investors have confidence in the markets  
2 and the integrity of those markets. This year the  
3 Commission will continue to adapt and work on our  
4 oversight of these changing markets, including  
5 emerging trends relating to electronic trading. The  
6 Commission's already taken a number of steps, and  
7 you've already been very helpful in these in that  
8 regard.

9           As it relates to both trading and  
10 clearing, the Commission has proposed that there be  
11 pre-trade filters to protect the markets and the  
12 clearing system and our proposed designated contract  
13 market rules and our proposed swap execution  
14 facility rules. These trading platforms were  
15 required to put in place effective risk controls,  
16 including pauses and/or halts to trade in event of  
17 extraordinary market events.

18           We also sought and received many helpful  
19 comments on possibly requiring additional risk  
20 controls, things like price collars, limits on  
21 maximum order sizes, stop loss and kill buttons.  
22 And I know later today, I think one of the groups is  
23 going to be talking about that, which will be very  
24 helpful.

25           This month we did actually finalize some

1 rules to strengthen risk management procedures and  
2 clearing members. The final rule requires that  
3 futures commission merchants and dealers and the  
4 like establish risk-based limits on their customers  
5 and house accounts. Basically risk filters and  
6 procedures would help secure the financial integrity  
7 of the clearing system.

8 In addition, the Commission finalized  
9 internal business conduct rules with regard to swap  
10 dealers. Doesn't necessarily affect many of you  
11 now, but there might be a time that some of you will  
12 be electronically trading swaps and this will be  
13 helpful because within those rules, maybe not well  
14 noticed, but within those rules a risk management  
15 procedure requiring swap dealers to have policies  
16 and procedures that detect, identify and promptly  
17 correct deficiencies and operating and information  
18 systems.

19 Furthermore, the risk management  
20 procedures are required to be tested and reviewed.  
21 So taken together, these requirements are important  
22 enhancements to protect a rapidly changing market,  
23 because one day swaps may be in a similar place that  
24 our futures markets are now.

25 Further, I expect the Commission will

1 consider putting out for comment a concept release  
2 concerning testing and supervision of automated  
3 market participants, especially those with direct  
4 market access. Concepts will be designed to address  
5 potential market disruptions at high frequency  
6 traders and others who have automated systems and  
7 access and costs.

8           The Commission's also looking to propose a  
9 rule when reporting of ownership and control  
10 information for trading accounts. That will give us  
11 more information as well. These rules would enhance  
12 our surveillance capabilities, increase transparency  
13 of trading.

14           So again, I'd like to thank Commissioner  
15 O'Malia for his work on this, as well as Chief  
16 Economist Andrei Kirilenko. I note that both of  
17 them ride to work on a bicycle every day, so I know  
18 that this article was probably referring to you.  
19 But some of us just run or walk as regulators. I  
20 think, Commissioner Wetjen, you ride a bike as well,  
21 right?

22           Yeah, so I think they're referring to the  
23 three of you. But the work of this committee and  
24 this subcommittee helps inform and infuse good  
25 advise and your thoughts in all that we're doing.



1 That which we've already done I think was better for  
2 it. That which we've put into the designated  
3 contract market and SEF proposals came right after  
4 the FIA and this committee, and I think under your  
5 leadership was working about a year ago or 18 months  
6 ago into that, and I think it will really help us as  
7 we continue to move forward to adapt to changing  
8 market structures.

9 So I thank Scott. I thank all of you,  
10 those particularly willing to associate yourself  
11 with high frequency trading.

12 COMMISSIONER O'MALIA: Thank you, Mr.  
13 Chairman. Commissioner Sommers?

14 COMMISSIONER SOMMERS: Thank you. And I  
15 just want to echo the gratitude of my colleagues to  
16 all of you and to the Commission staff that are  
17 willing to put in extra hours on these very  
18 important issues. I can't say enough about how  
19 important it is for this Commission to be more  
20 informed and to have a greater understanding about  
21 the types of new market activities and the type --  
22 the ways that these markets are evolving.

23 The Commission has a long history of  
24 regulating actors within the markets for their  
25 specific behaviors, floor brokers, CPOs, CTAs, IBs,

1 with regard to their different activities in the  
2 market. But we've never based our regulatory scheme  
3 on the type of access that someone has or the  
4 different hardware or software that they utilize.

5 I believe that it's absolutely appropriate  
6 for us to understand and recognize different trading  
7 activities and to impose different regulatory  
8 obligations on those activities. But I believe it  
9 would be unprecedented for this Commission to decide  
10 that we draw distinctions between market behaviors  
11 or methodologies. In my mind, this would be like  
12 regulating the guy on the outside of the ring  
13 differently than you do in the guy in the inside of  
14 a trading pit based on their location difference,  
15 based on their different trading style, or maybe  
16 even the sound of their voice.

17 Hopefully with the help of this advisory  
18 committee and the ATS/HFT Subcommittee, we can  
19 define and develop the appropriate regulatory  
20 framework for the specific market activities. I'm  
21 confident that this further analysis can prevent us  
22 from requiring certain market participants to be  
23 registered in categories that do not fit their  
24 activity and help us to avoid policy decisions with  
25 the potential to cause adverse market implications.

1                   Again, just to echo what the chairman said  
2 about Commission O'Malia's work on all of these  
3 issues, this particular advisory committee and the  
4 subcommittees that he's developed I hope will help  
5 us gain a better understanding and help us to  
6 improve our oversight regime.

7                   COMMISSIONER O'MALIA: I think we have  
8 Commissioner Chilton on the phone?

9                   COMMISSIONER CHILTON: Yeah, I'm here.  
10 Good morning.

11                  COMMISSIONER O'MALIA: All yours, Bart.

12                  COMMISSIONER CHILTON: Well, I'll echo  
13 what my colleagues have said, but thanking you,  
14 Scott. I do so privately a lot of times guys.  
15 Commissioner O'Malia has done a great job on this,  
16 as has his staff, and I very much appreciate it.  
17 You've done more with the advisory committees than  
18 I've seen in the time that I've been here, and  
19 really to be commended.

20                  I appreciate you doing this over the  
21 phone. I won't be long here, and I'm just going to  
22 be around for the morning, Scott, and I'll just  
23 listen after this. But I came across an interesting  
24 statistic a couple of weeks ago and it was in  
25 working with DPCC, and then talking with somebody

1 who's pretty smart on this stuff.

2           There are over 160 million financial  
3 transactions taking place around the world every  
4 day, and that's not people, a check clearing their  
5 bank. But it's 160 million market-related financial  
6 transactions taking place all around the world. And  
7 it's just sort of amazing when you think about a  
8 normal size and breadth of the markets and how  
9 traders are not just up on one market or one  
10 exchange, but they're arbitraging all across the  
11 world. And these things are -- the HFTs, the  
12 cheetahs as I call them, are sort of churning away  
13 and burning up the fiber 24/7/365.

14           It's pretty amazing actually and I commend  
15 the exchanges for the work they've done, that we  
16 don't see more problems than we do. They do a  
17 really good job of trying to keep track of it. But  
18 that said, there has been some noticeable trips and  
19 falls and I won't get into those. You know what  
20 they are.

21           The argument that I hear a lot, and both  
22 Commissioner Sommers and Chairman Gensler referred  
23 to it, but I hear this a lot, that while the  
24 cheetah -- the FHTs are really just an extrapolation  
25 of the day trader. It's just like the pits. You

1 know, these guys are basing their trades upon intel  
2 that they just get. It's as sophisticated as it can  
3 be, that they try to execute fast in order to get an  
4 advantage. And they try to be essentially flat or  
5 have as little exposure as possible at the end of  
6 the trading day.

7           So while I accept that those are  
8 similarities with the day traders, you know, there  
9 are still -- that's still an argument that some  
10 people use to say to regulators, so since they're  
11 like the day traders, there's nothing to see here.  
12 Move along folks.

13           Remember that old day tripper song, the  
14 Beatles song, it says got a good reason for taking  
15 the easy way out. Got a good reason for taking the  
16 easy way out. Well, I understand why some people  
17 would make that argument. They don't want to be  
18 regulated. That's the easy way out. And for us  
19 it's naive to think that these things aren't  
20 different, that the cheetah traders aren't different  
21 than day traders, and dangerous from a regulatory  
22 perspective.

23           And so I really appreciate the fact that  
24 we're looking at this. I know you all believe that  
25 we need to understand it better. I talked about not

1 only registration, but of the pre-trade  
2 functionality testing essentially before HFT  
3 programs go into the production environment, about  
4 kill switches in case the programs go sterile.  
5 Those are three things that I think make some sort  
6 of obvious sense.

7 But I appreciate the work that everybody's  
8 done there. I appreciate all that the TAC and the  
9 subcommittee for --subcommittee for your future  
10 work. And let's just hope that if we go forward  
11 with this in the right way and have a balanced  
12 approach, as Commissioner Sommers is talking about,  
13 that technology in market isn't simply a one-way  
14 ticket. Thank you.

15 COMMISSIONER O'MALIA: Thank you,  
16 Commissioner Chilton. Commissioner Wetjen.

17 COMMISSIONER WETJEN: Thanks Commissioner  
18 O'Malia. I was just going to add my voice to the  
19 chorus of praise for Commissioner O'Malia and all  
20 his hard work on this issue, and his effective use  
21 of the advisory committee has been -- you've been  
22 very clever and effective in figuring out how to use  
23 us as a useful tool, and not just for the  
24 Commission, but I think also for the benefit of  
25 market participants.

1           I also appreciate the fact that today with  
2 this meeting there's some targeted issues that  
3 hopefully everyone here in the room are going to be  
4 able to help us grapple with, and I think focusing  
5 the discussion that way is especially good for the  
6 Commission.

7           And then lastly, again just want to pile  
8 on, I guess, with what the others have said. I know  
9 -- I know how difficult it can be for folks that are  
10 here today to make time to do this kind of thing,  
11 but again, it's very -- it's very, very useful to  
12 us, very, very important to get your input. So  
13 appreciate the fact that you trekked to D.C. if  
14 you're from out of town and taking yourselves away  
15 from your regular day jobs. We really benefit from  
16 it and really appreciate it.

17           So look forward to the discussion today.

18           COMMISSIONER O'MALIA: Thank you very  
19 much. Next we're going to hear from Andrei  
20 Kirilenko, our chief economist.

21           MR. KIRILENKO: Thank you, Commissioner  
22 O'Malia. I'd just like to make a few brief remarks  
23 to introduce the new Subcommittee on Automated and  
24 High Frequency Trading of the Technology Advisory  
25 Committee. I think this is going to be a terrific

1 effort and highly anticipated effort, as you can see  
2 by all the commissioners and the chairman.

3 This subcommittee includes 24 very, very  
4 able individuals who have kindly agreed to devote  
5 their time to public service. They're extremely  
6 well qualified. They represent a diverse set of  
7 views. We have exchanges, designated contract  
8 markets. We have futures commission merchants. We  
9 have a variety of different HFTs. We have traders  
10 who are still human traders. We have a variety of  
11 experts, experts both on the technology of automated  
12 and high frequency trading and experts on the impact  
13 of it.

14 We also have data vendors. Data is an  
15 integral part of this ecosystem. So we really look  
16 forward to their participation on this. We've split  
17 up this 24 very able individuals into four working  
18 groups. We've done this before. This is done for  
19 -- to make -- to basically make this operational, to  
20 make this work in a sort of focus, to have each  
21 working group focused on specific tasks.

22 The first working group is going to work  
23 on the definition of HFTs. The second will work on  
24 different types and maybe tag HFTs. The third will  
25 look at surveillance, regulation, other things. And



1 the fourth one will look at sort of broader market  
2 microstructure issues, as Chairman Gensler said,  
3 which has been evolving, and we need to think of  
4 adapting our regulation and oversight.

5 The objective of each working group would  
6 be to see -- to produce written recommendations that  
7 could be consumed by the public and used by the  
8 Commission for consideration and adoption. These  
9 recommendations will be then given to the Technology  
10 Advisory Committee and you will see how it's done  
11 sort of later this afternoon where the other  
12 subcommittee that we have on data standardization  
13 will be giving their recommendations to the  
14 Technology Advisory Committee.

15 So that's sort of what the endpoint sort  
16 of looks like. It doesn't mean that sort of work  
17 ends here. We think of this as a catalytic effort.  
18 There's an effort where we catalyze with you and  
19 with us a sort of broader trends within the industry  
20 to move towards an environment where these automated  
21 and high frequency trading is better understood,  
22 where it's better understood what oversight and  
23 regulatory measures need to be in place in light of  
24 their presence in the markets.

25 So I'm very excited that we are starting

1 this process. As Commissioner O'Malia has said, you  
2 and the working groups are going to have a chance to  
3 meet very dedicated staff of the Commission and  
4 observers from other agencies who will be working  
5 with you. They'll be facilitating. I've heard  
6 there will be -- they will be there to serve your  
7 needs. But you're the advisory subcommittee. You  
8 will be the ones advising all of us.

9 We have -- to get things started for the  
10 subcommittee, we've select -- we asked four  
11 representatives of the subcommittee to speak on a  
12 number of issues related to exchange oversight,  
13 academic review and sort of a practitioner's view to  
14 get things started. We anticipate to have some  
15 additional public meetings of this subcommittee  
16 going forward where you'll have a chance to speak in  
17 public, where each working group will have a chance  
18 to present its views in full public view.

19 We have curtains drawn so we can be seen  
20 by anyone. This is time for these issues to come  
21 clearly out in the open by people who know what  
22 they're talking about, and they're excited to have  
23 this opportunity to start this process today.

24 Thank you all again.

25 COMMISSIONER O'MALIA: Great. Thank you,

1     Andrei.  As I noted, I started this creation by  
2     sending out a definition of what is ATS/HFT.  And I  
3     sent that to the Technology Advisory Committee.  I  
4     think to start it off, I'd like to recognize Richard  
5     Gorelick.  He has some comments to make about this  
6     issue.

7                     If any of the other TAC members haven't --  
8     want to say something, that's fine.  We can arrange  
9     for that and then we'll go to the panels.  So  
10    Richard, thank you.

11                    MR. GORELICK:  Thank you very much,  
12    Chairman.  Thank you, members and staff of the  
13    Commission, for inviting me to participate in this  
14    important discussion.  I'm the CEO of RGM Advisors,  
15    a principal trading firm based in Austin, Texas.

16                    I have consistently supported regulation  
17    that promotes fair competition, enhances  
18    transparency, manages systemic risk, lowers costs  
19    for investors and hedgers, and gives regulators the  
20    tools they need to detect and deter abuse.  Most  
21    importantly, I believe that any inquiry should be  
22    driven by empirical evidence of what's actually  
23    going on in these markets.

24                    Right now the Commission, through its own  
25    records and through the exchanges, has unique access

1 to fully attributed audit trail data on every single  
2 order and trade in the futures markets.

3 An essential first step is for the  
4 Commission to analyze this information that's  
5 available to it. If the Commission does not believe  
6 that it has the technology or the expertise to  
7 archive or evaluate such data, this group, the  
8 Technology Advisory Committee, is well suited to  
9 advise the Commission.

10 Two areas warrant special examination  
11 within the data. First, what is the overall quality  
12 of the market? Existing research consistently shows  
13 lower trading costs, tighter bid-ask spreads,  
14 greater liquidity, reduced short-term volatility and  
15 approved price discovery over recent years. But  
16 don't just take my word for it. It's appropriate  
17 for the Commission to look at the data independently  
18 to get to the bottom of what it says about market  
19 quality.

20 The second issue is to surveil the audit  
21 trail for improper market behavior. Unfortunately,  
22 discussions of abusive or disruptive trading  
23 practices are largely driven by suspicion, emotion,  
24 rumor and anecdote. That's the wrong way to make  
25 good policy. Rather, why not look at the data, get

1 evidence, investigate and take appropriate action?

2           One of the great virtues of public  
3 electronic markets is transparency. I urge the  
4 Commission to shine light on what's really going on  
5 in the markets before engaging in finger pointing at  
6 a particular group.

7           Where to start? At the December TAC  
8 meeting, as Chairman O'Malia indicated, I suggested  
9 that the Commission define a group of direct ATS  
10 participants, firms that use an automated trading  
11 strategy directly connected to an exchange. Instead  
12 of starting with a narrow group defined by arbitrary  
13 thresholds, by starting with this broad universe and  
14 then sorting and filtering based on relevant  
15 criteria, regulators would get a complete picture of  
16 market activity.

17           Recall that an automated trade by a mutual  
18 fund was an important factor in the Flash Crash. It  
19 does not make sense to turn a blind eye to some  
20 market activity by defining your way at the outset.  
21 Moreover, it would be a shame to have spent such  
22 considerable time and effort attempting to study  
23 high frequency trading only to realize that we still  
24 don't have a full understanding of what's going on  
25 in the markets.

1           That's why we maintain that anyone trading  
2 should have proper risk controls and should be  
3 subject to appropriate market surveillance, no  
4 matter at what frequency they operate.

5           Mr. Chairman, I'm hopeful that the actions  
6 today will help us to move beyond the preoccupation  
7 with high frequency trading and to take thoughtful  
8 and concrete steps based on real evidence to  
9 strengthen our markets. Thank you.

10           COMMISSIONER O'MALIA: Thank you very  
11 much. Anyone else from the TAC want to make a  
12 comment? We're going to go to the -- our four  
13 panelists, and I'd remind everybody, everybody's got  
14 microphones in front of them. You can ask any  
15 question. We're going to ask questions. And we're  
16 getting microphones for the HFT members as well so  
17 you can ask questions. And we'll go down the line  
18 and take questions after each panelist -- at the end  
19 of the panel. I'm sorry.

20           Panel 1, we have Mark Wassersug, vice  
21 president of Operations of ICE. Mark has been with  
22 ICE since 2001, has been vice president of  
23 Operations since 2004. He is responsible for  
24 overseeing all trading and clearing platform  
25 technology operations, including the global network

1 and infrastructure design and operation. It's my  
2 understanding that Mark's job is to cover these  
3 markets like stucco.

4 So we have Mark in the first panel,  
5 followed by Dean Payton, managing director and  
6 deputy chief regulatory officer of the CME Group,  
7 and has been in that position since November of  
8 2009, and responsible for overseeing CME Group's  
9 regulatory efforts for CME, CBOT, NYMEX and COMEX.

10 Following Dean we have -- Joel Hasbrouck  
11 has been at the Ken Langone Professor of Business  
12 Administration and Professor of Finance at the Stern  
13 School of Business at New York University, and his  
14 research focuses on the analysis, design and  
15 regulation of securities trading and mechanisms, and  
16 he's the author of empirical -- of empirical market  
17 microstructures study, Oxford 2006, and numerous  
18 other articles. We're pleased to have your  
19 participation as well.

20 And Sean Castette is chief information  
21 officer at GETCO, a little small firm some of you  
22 have heard of, and he is -- joined them in 2001 and  
23 currently leads the firm's fixed income commodities  
24 and currencies trading groups. In his role, Sean is  
25 responsible for overseeing GETCO's global trading

1 activities in these asset classes, including the  
2 identification and development of new and enhanced  
3 trading strategies and technologies initiatives. He  
4 also serves on the GETCO senior management team,  
5 helping guide the firm's overall strategy.

6 We're very pleased to have all of you here  
7 today. We're going to start with Mark and work our  
8 way across. So Mark, it's all yours. Thank you.

9 MR. WASSERSUG: Thank you, Commissioner  
10 O'Malia, and the rest of the Commission, for  
11 inviting me to speak today. I am vice president of  
12 operations for ICE, and as Commissioner O'Malia  
13 said, yes, I cover the ICE markets like stucco. But  
14 really I would say it's more like the purple skin on  
15 an eggplant.

16 What I would like to talk about today is  
17 our oversight of automated trading systems and  
18 controls and functions that we have within the  
19 exchange to cover those systems. So it's a -- I  
20 have a very brief presentation. Happy to take  
21 questions throughout the presentation, or at the end  
22 of the presentation.

23 So the first slide I'd like to just  
24 discuss how ICE, we at ICE, from an operations  
25 perspective and compliance perspective, think about



1 automated trading systems. To me, the category is  
2 very broad. It's with two main focuses, one,  
3 automated order submissions, and two, direct market  
4 access.

5 So we have a broad view of clients who  
6 automatically submit orders to the ICE exchange. We  
7 can be talking about a simple ISV that has a  
8 spreadsheet hook to it through to an auto-spreader,  
9 or finally to a significant and sophisticated black  
10 box algorithm. But all of these customers maintain  
11 a direct market access. From the exchange  
12 perspective, that's how we would evaluate an ATS,  
13 and we really don't look at subcategories beyond  
14 that from a monitoring and a compliance perspective.

15 As many of you have talked about, the  
16 benefits of ATS are providing liquidity, market  
17 making abilities and tighter bid offer spreads, but  
18 unlike with any benefits, there are risks also  
19 associated with these same types of activities.  
20 Next slide, please.

21 From a risk perspective, we really look at  
22 two broad sides of risk, one, the operational risk,  
23 and two, compliance risk. As you can imagine over  
24 the last five years, we've seen significant growth  
25 in transaction rates and order and message

1 processing and just with the amount of data that  
2 we've had to consume and analyze.

3 This is -- one of the risks to our  
4 exchange obviously is to be able to keep pace with  
5 technology, bandwidth, monitoring, et cetera, to  
6 match the demands that our clients have for the  
7 consumption of that -- of that technology.

8 These -- the types of processing that  
9 we're doing could potentially impact performance,  
10 not only from the exchange by slowing down the flow  
11 of messages and flow of transactions, but also our  
12 users can be impacted as a result of having consumed  
13 more and more information and process that  
14 information.

15 The second set of risks that we look about  
16 -- look at from an exchange perspective is a  
17 compliance risk. So we have to be able to monitor  
18 and closely analyze purposeful or accidental market  
19 impacts for -- from orders coming into the market at  
20 a very high rate on a large scale and have the  
21 capacity and the ability and the tools to actually  
22 monitor, report on and analyze this data in real  
23 time as well as in the past. Next slide.

24 Over the 11 years that I've been at ICE,  
25 we have put in a significant number of controls,

1 automated and manual, to help alleviate some of the  
2 risks that we have within the exchange. And these  
3 controls are not -- were not put in place to deal  
4 with automated trading to do with HFTs in  
5 particular.

6 Our view is that these controls are  
7 systemic and need to be in place for any type of  
8 user on the exchange, whether they are a user using  
9 a mouse or a computer trading against the exchange.  
10 Some of the controls that I want to speak about  
11 really fall into two categories, automated order  
12 entry validations and then manual validations and  
13 controls.

14 From an automated perspective, what our  
15 mandate is from the exchange side is to protect the  
16 exchange from errant events, anomalies. So here I  
17 have listed five sort of the high-level controls  
18 that we put in place. Message throttle limits for  
19 one. So we throttle an individual user, an  
20 individual market session with a certain number of  
21 messages over a certain period of time. So we can  
22 control a runaway API. We can control a user  
23 potentially floating hundreds or thousands of  
24 messages in a given period of time.

25 This allows -- this allows us to not only

1 monitor and regulate the amount of messages coming  
2 in from a particular user, but it also gives us a  
3 good understanding of how a user's trading strategy  
4 can be used, and we will work with the user to  
5 figure out appropriate message thresholds based upon  
6 their activity.

7           Another automated control we have in place  
8 are maximum quantity limits. So you might look at  
9 -- you've heard fat finger error, where a user might  
10 be looking to bid or offer 10 and they accidentally  
11 type in 10,000. Well, we have set quantity limits  
12 across the exchange by market, which will eliminate  
13 the ability for a user to make a fat finger error  
14 such as this. An order that comes in beyond a  
15 maximum quantity limit would be rejected and an  
16 alert would go into our operation center, as well as  
17 to the user that the message was rejected and the  
18 reason it was rejected.

19           I think one of the unique features that we  
20 have as commodity exchanges, both CME and ICE, are  
21 the price reasonability validations. What we --  
22 what price reasonability means basically is we  
23 collar an upper and a lower range of price  
24 acceptance based upon the current market price at  
25 any given time. And that range is preset by market

1 and will reject any order that comes in above or  
2 below that particular range.

3           So for example, much like the fat finger  
4 error on max quantity, if a user is attempting to  
5 float a bid at 10 and it's 10,000, we would -- we  
6 would be rejecting that price limit through our  
7 reasonability validations and the order, again,  
8 would be rejected and the user would be notified.

9           The fourth point is our position  
10 validation, so whereas the first three were more  
11 along the lines of floating an order, position  
12 validation is actually looking at real time  
13 position, long or short position, and rejecting  
14 orders for trades once a position limit was --  
15 position limit was met.

16           That is controlled not by the trader, but  
17 more at the risk manager level or at the clearing  
18 firm member level, whereas these are credit checks  
19 that can be done again in real time based upon  
20 active live position from a particular user, or a  
21 particular account.

22           And finally, one of the things from the  
23 FIA principles is the order to move upon log-out.  
24 All ICE users who are disconnected from the system  
25 can -- will have all of their orders removed from

1 the market upon disconnect. Now we do have the  
2 ability for a user to float an order that stays live  
3 after disconnect, but by default orders are removed  
4 upon log-out. So we don't have orders sitting in a  
5 market where a user may have lost connectivity or  
6 there might be a problem on their end or on our end.

7 From a manual validation perspective, one  
8 of the key features that we have is a log off user  
9 and kill all button, so whereas similar to once  
10 users log out, all their orders are pulled, again,  
11 risk managers, clearing members have the ability to  
12 log in and remove a user from a market, which would  
13 kill all of their orders that were live at the  
14 market at that time.

15 We also give clearing members another tool  
16 that allows them to suspend, close, deactivate  
17 clearing accounts, which again eliminates a user's  
18 ability to trade at any given time, thus pulling all  
19 of the orders out of the market. Again, these are  
20 risks controls that we feel go beyond just the  
21 trader's ability or the trading firm's ability, but  
22 sit at the heart of mitigating risks at the clearing  
23 perspective.

24 We have a very well documented cleared  
25 trade policy, error trade policy, as well as no

1 cancellation range across all of our markets and  
2 across all of our exchanges. So those are -- those  
3 are really the controls that we have in place. One  
4 of the unique features that we just added to ICE two  
5 weeks ago is something called the Interval Price  
6 Limit. It's something we've been working on for  
7 about a year and a half. And we began this work as  
8 a result of the Flash Crash. Next slide, please.

9           The Interval Price Limit is basically  
10 ICE's circuit breaker to prevent or protect against  
11 price spikes. What the IPL does is it provides a  
12 rolling floor or ceiling price over a given time  
13 frame that is configurable to a particular market.  
14 This rolling price recalculates on a particular X  
15 interval, or Y interval, X interval over time and at  
16 a particular interval height up or down, and it  
17 eliminates the ability for a user to either offer  
18 through the market or bid above the market.

19           What the -- how the IPL works is if we --  
20 if a market hits a low point along the IPL, let's  
21 say the interval price limit is set to \$10 and --  
22 the price of the -- sorry, the price of the -- the  
23 price of the future is trading at \$20 and we have an  
24 IPL of -- range of \$10, we would have a low limit of  
25 10 and a high limit of 30. If that low limit were

1 enacted, it traded below or offered below that  
2 limit, the market would be put in a hold state. Now  
3 hold doesn't mean closing the market. It doesn't  
4 mean suspending all transactions. What it means is  
5 it holds the ability for any offers to come in below  
6 that \$10 low limit, but allows bids to come in to be  
7 able to stop any gap down that might be taking  
8 place. And it also allows the ability for people to  
9 trade above that low hold limit.

10 The hold is configurable. Generally on  
11 our system right now it's configured anywhere from  
12 five to 30 seconds across different market types,  
13 and although it hasn't been triggered, we are going  
14 to be looking at what those intervals are and  
15 resetting them based upon market activity.

16 What's important is the notification of  
17 that hold goes out to the market in real time, so  
18 all users are aware in real time that the market is  
19 held, why the market was held, the price information  
20 that put the market in a hold state and what the  
21 interval will be and when the hold will be lifted.  
22 And finally, once the hold ends, a new IPL upper and  
23 lower limit are calculated and trading can resume.  
24 If we go to the next slide.

25 I put a diagram together to sort of



1 represent what that -- what this might look like.  
2 So on the first section on the left there, you've  
3 got this -- our IPL interval. You can see APs  
4 are -- we're calling it the average price, anchor  
5 price of the market at any given time. The  
6 reasonability limits are what we won't let the price  
7 trade above or below at any given time in the  
8 market, and our IPL range is the thick upper and  
9 lower lines.

10 As you can see after the first interval,  
11 the average price is going down. We recalculate the  
12 IPL, but the price now has some precipitous drop and  
13 we see a trade below or attempted below the lower  
14 IPL limit. This immediately puts the market in a  
15 halt state, or hold state, so no trading below that  
16 IPL limit can take place. However, trading can take  
17 place within that trading allowed range and above  
18 the lower IPL limit.

19 And then our assumption and our hope is  
20 that we see market orders come into the market that  
21 will add some strength to the lower end and the  
22 market will rebound off the low, eliminating or --  
23 eliminating the ability for the market to spike  
24 downward where we would see potential stop orders  
25 start coming into the market and you would see a

1 precipitous drop in price. As the -- as a hold is  
2 lifted, a new IPL calculated and we continue to move  
3 on in a direction of normalcy afterwards. Next  
4 slide, please.

5           The second side of the controls scheme  
6 that we look at are really the system monitoring and  
7 the system controls. So whereas the first were our  
8 functional controls within the system, this is more  
9 of our oversight and monitoring of particular  
10 markets at any given time.

11           We have -- I guess one of the key points  
12 about having any ATS in your marketplace is being  
13 able to validate that ATS performs in a way that you  
14 would expect it to perform. We have a rigorous  
15 testing and conformance program that is run out of  
16 ICE which requires all ATSS to actually conform with  
17 particular test cases and a particular program, and  
18 until that ATS is certified by the conformance test  
19 and meets all the criteria of the performance test,  
20 it will not be permitted to trade on the ICE  
21 exchange.

22           One of the -- I think the key features is  
23 the recertification as either ICE goes through  
24 changes on the trading system that could impact ATSS  
25 or ATSS go through significant changes within their

1 technology or functionality. We do require  
2 recertifications as well.

3 We also, much like our -- the message  
4 thresholds we talked about, we have message rate  
5 thresholds, whereas the regulator on an individual  
6 ID looked at particular IDs. We actually look at  
7 message rates across a particular market over any  
8 given time period. So we're able to monitor if  
9 there's a spike of activity, a flurry activity, not  
10 just by an individual user, but again, at the entire  
11 market level, and we've got our operations team that  
12 is responsible and surveillance team that is  
13 responsible for handling any of these types of  
14 issues, any of these types of alerts.

15 We generate system performance reports  
16 internally, it seems like within every five minutes  
17 of the day, that are responsible for basically  
18 looking at the exchange at any given perspective,  
19 looking at performance levels, traffic levels,  
20 capacity levels, and being able to identify any  
21 potential -- any potential issues that might have  
22 taken place within the last time interval that we  
23 look at.

24 We also generate, I think, which is unique  
25 to the industry, an ATS efficiency report where we

1 look at particular ATSS on the exchange and we  
2 designate what their message efficiency looks like,  
3 really looking at the quality of the messages in  
4 orders that they are generating compared to the  
5 number of transactions and the number of -- and the  
6 amount of volume that is being traded.

7 Two other key pieces that I am going to  
8 touch upon briefly are our SMART system, which is  
9 our real time compliance surveillance system, and  
10 our message policy and WVR reports. So SMARTS, we  
11 did the demo this last week to the CFTC. We're not  
12 prepared to do a demo today, but it's our real time  
13 market surveillance. It's essentially a real time  
14 historical graphical representation of an entire  
15 market at any given time over any given period of  
16 time.

17 The -- our SMARTS system is used by our  
18 surveillance teams in Atlanta, Chicago, New York and  
19 London. It's able to reconstruct a full order book  
20 and synchronize a playback for a particular market  
21 looking at very granular individual orders and time  
22 stamps of orders coming into the market based upon  
23 user information.

24 We've been able to -- we've had SMARTS in  
25 place for about two years. We've been able to

1 customize a tremendous number of alerts that allow  
2 us to detect anomalies, significant price movements,  
3 potential market abuses, and those alerts are then  
4 generated into our compliance and our operations  
5 teams to allow them to further diagnose and analyze  
6 any particular issues that SMARTS may alert us to.

7           There's also a significant amount of  
8 historical information that's presented in SMARTS  
9 where we can go back and do multiple analyses based  
10 upon anything that happened in the past. The --  
11 next slide, please.

12           The key -- one of the other key points  
13 that we want to talk about, and this is specific to  
14 ATS, is our messaging policy. ICE has had a  
15 messaging policy really for the last four years, but  
16 three of the four years was -- we really looked  
17 simplistically at overall messages or orders coming  
18 into the market based upon the number or within  
19 ratio to the number of lots traded. And what we  
20 realized was that really wasn't giving us a good  
21 picture of how the markets operated and how our  
22 customers particularly operated with regards to the  
23 quality of the orders that were being placed in the  
24 market.

25           What we established last January and

1 implemented last March of 2011 was a new policy  
2 where we look to discourage inefficient messaging  
3 basically by penalizing messages that were further  
4 away from the market at the time of their entry and  
5 rewarding the messages that were on the market or  
6 close to the market at the time of entry. This --  
7 we coined this the WVR or Weighted Volume Ratio.

8 WVR is really, the weighting is a  
9 multiplier that's based upon the proximity of that  
10 order at any given time. Our policy's enforced at  
11 the firm level and it's enforced on firms only  
12 meeting a particular number of submissions on a  
13 given day, so a threshold. And we broke the policy  
14 down into multiple tiers, really a minor tier and a  
15 major tier, and I'll get into that in a little bit.  
16 Next slide, please.

17 So the weighting that I mentioned earlier  
18 looks at the time of submission where that order is  
19 in relation to the best bid or offer at the time.  
20 So what we realized, that we like market makers, we  
21 like ATSS who are submitting prices at the market,  
22 best in market, a tick off the market, two ticks off  
23 the market, and we wanted to reward that behavior.  
24 But we wanted to penalize those users who were three  
25 to five or five ticks outside of the market at any

1 given time. Although we realized there are  
2 strategies that implement those procedures, we  
3 didn't want -- we wanted to at least force the ATSS  
4 to take a look at why and how they were entering  
5 orders, the proximity of those orders, so they could  
6 better assess whether that strategy could be refined  
7 to be improved.

8           The calculation that we use is simply the  
9 multiplier, so where that message is, by its  
10 proximity times the number of messages that come in  
11 divided by the total sum of the lots, to come up  
12 with our weighted volume ratio. And what we found  
13 was that with minimal prodding, the ATSS were able  
14 to back and refine their strategies where they  
15 didn't necessarily reduce the number of messages  
16 that they were sending. But they were able to  
17 refine those messages and make them tighter into the  
18 market, and it ultimately allowed us to have more  
19 efficient markets, essentially tighter markets with  
20 fewer outliers outside of particular price bands  
21 that we felt were not reasonably tradeable. Next  
22 slide.

23           One of the ways we were able to share this  
24 information with ATS is from the feedback we were  
25 able to give them. What we provide every one of our

1 ATSS who submits orders onto the exchange, is a  
2 report daily that basically gives them a breakdown  
3 of where every single order was, the percentage of  
4 those orders, the average quantity across a  
5 particular market, and where they fell within those  
6 buckets that I mentioned, the better, at one tick  
7 away, et cetera.

8           So we were able to provide a report such  
9 as this, and this is just a sample from one user  
10 from one particular day, back to the ATSS, so they  
11 could go back and evaluate their strategies against  
12 actual performance data that they had from the  
13 previous day. And this was, I think, a significant  
14 breakthrough from a lot of the understandings of the  
15 ATSS, because really this data was not available to  
16 them from a market perspective outside of through  
17 the ICE exchange.

18           So -- and again, we made this available  
19 for free on our website. If a user does violate a  
20 particular low threshold or upper threshold, they'll  
21 receive a similar report to this e-mailed to them  
22 directly next business day, but it will actually  
23 show them where they violated, what user violated  
24 the particular policy. And again, we'll be able to  
25 allow them to go and dig into the strategies that



1 they are using to help refine their approach going  
2 forward.

3 We feel that working with our customers in  
4 this way we've had significant advantages improving  
5 message efficiency and order -- on order ratios  
6 within the exchange, and I think we can show that by  
7 the next slide. Overall on ICE we implemented this  
8 a year ago. It's been one year of data. We've seen  
9 a 33 percent reduction in the WVR ratios over the  
10 past calendar -- over the past year, and we've seen  
11 some significant reductions in our U.S. futures, in  
12 our OTC markets and good reductions in our U.K.  
13 markets.

14 I think what's the largest standout stat  
15 here to me is that we've seen a 93 percent reduction  
16 in the amount of major violations, so reaching a VR  
17 -- WVR threshold of 500 since we implemented this  
18 procedure. And again, we haven't necessarily seen a  
19 reduction in the number of orders, but what we have  
20 seen is much efficient orders that are much tighter  
21 to the market.

22 This concludes my presentation and I'm  
23 happy to answer any questions. Thank you.

24 COMMISSIONER O'MALIA: Thank you very  
25 much. I know the chairman's got a couple of

1 questions already, so we will just go ahead with  
2 questions.

3 CHAIRMAN GENSLER: I'm going to lay out  
4 all three of my questions. One of the earlier  
5 pages, you had, I'm going to call it message  
6 throttle limits. So I was kind of curious whether  
7 we're on a country road and your speed limit's 20  
8 miles an hour, you're on a highway, it's 70, or it's  
9 the Indy Speedway and it's 210, but it would be  
10 really interesting to know what the speed limit is.  
11 Some example you could use, I don't know, you're  
12 Henry Hubb contractor, you know, just something that  
13 we're familiar with.

14 Second question I had is just overall, if  
15 you could give us a sense of what is the ratio of  
16 messaging to transactions? I mean, I occasionally  
17 use something in a speech that Andrei's given me,  
18 but I'm not sure the number's right. I mean,  
19 Andrei's always right, but I'm not sure that -- I'd  
20 like to know what your -- what's the average that  
21 ICE, or if you can give some contract.

22 And then the third thing is, if I  
23 understand this Weighted Volume Ratio approach, is  
24 it possible that you could have an inadvertent  
25 reaction that you'd have less depth to book, and so

1 in quickly moving or volatile markets if you're  
2 dis-incentivizing people to be five and six ticks  
3 away that you might find that you actually have sort  
4 of something you didn't want, but then the thing  
5 could just blow right through?

6 So those are my three questions.

7 MR. WASSERSUG: Sure. Let's take them  
8 from the top, Mr. Chairman. Thank you.

9 The messaging threshold limits, so that is  
10 actually set on a -- by a particular individual  
11 basis. So the range can be very broad. For  
12 example, a particular WebICE user --

13 CHAIRMAN GENSLER: So different speed  
14 limit. Rick's got a different speed limit than  
15 maybe each of the 24 members of the new advisory  
16 committee.

17 MR. WASSERSUG: Correct. And that speed  
18 limit can vary based upon how that -- based upon how  
19 many cars are driving on the highway. So if a  
20 particular user is trading just Henry Hubb, that  
21 speed limit is going to change if that particular  
22 user -- it's going to be different than if that user  
23 is trading Henry Hubb and sugar, for example.

24 So we have to allow for that speed limit  
25 to be able to handle both markets at the same time.

1 The user has the ability to trade multiple markets  
2 across the same -- across the same trading session.  
3 After a certain period of time though, our  
4 recommendation to that user is that they split up  
5 the individual sessions, so they put sugar in one  
6 car and they put Henry Hubb in another car, and then  
7 we can reduce the speed limit overall on the  
8 highway.

9 CHAIRMAN GENSLER: So just because there's  
10 probably a lot of questions, a lot to go through, if  
11 you could provide the five of us just something that  
12 is in plain English, just to understand.

13 MR. WASSERSUG: Sure.

14 CHAIRMAN GENSLER: You know, is it like a  
15 -- you know, you can put 1,000 messages in six  
16 nanoseconds, or is it like 100 messages in three  
17 seconds? You know, I'm just trying to understand.

18 MR. WASSERSUG: From an ATS perspective,  
19 messages per second perspective, on a initial put  
20 orders into the market, the setting that we go with  
21 generally by rule of thumb is 300 orders in one  
22 second for an ATS. For single clicker WebICE  
23 session it's an order of magnitude less than that.

24 CHAIRMAN GENSLER: That's helpful. It  
25 just gives it perspective. And then on the other,

1     how many orders per transaction do you -- whether  
2     it's Henry Hubb or sugar, on average?

3             MR. WASSERSUG:    Can you back up one slide?  
4     So looking at this -- this is our analysis for our  
5     Weighted Volume Ratio.  This is across the entire  
6     exchange here, so our Weighted Volume Ratio, the red  
7     line is a 30-day moving average.  It's roughly 12.5  
8     orders, messages, per lot traded.  That's on the  
9     weighting side, 12.5 messages per lot traded across  
10    the entire -- all of our exchanges.

11            CHAIRMAN GENSLER:  So Andrei, if I  
12    inadvertently included in a speech or two a 80 to  
13    90, what's that number compared to this?

14            MR. KIRILENKO:  I'd like to understand  
15    better what I think that the lot came in one --  
16    what's the definition of the lot?  One contract?

17            MR. WASSERSUG:  One contract, yeah.  And  
18    again, we're blending this across our U.S. future,  
19    our U.K. futures, our Canadian futures and our OTC  
20    contracts.

21            CHAIRMAN GENSLER:  So maybe just, you  
22    know, over the next couple weeks you guys, it will  
23    be just helpful to understand that.

24            MR. WASSERSUG:  I can provide that.

25            COMMISSIONER O'MALIA:  Can you go back to

1 maybe on page 12 in your sugar example?

2 MR. HASBROUCK: Excuse me, Scott. If you  
3 don't mind?

4 COMMISSIONER O'MALIA: Yeah, sure.

5 MR. HASBROUCK: I think the chairman had  
6 one last question I was going to try to respond to.  
7 You were asking, I think, does the -- this WVR  
8 policy, does it have an adverse effect of  
9 potentially reducing liquidity, three, five, seven  
10 ticks away from the market? And I think we  
11 experimented with a lot of settings, by the way, in  
12 looking historically at what would it look like if  
13 we had had various weightings in.

14 And I think the important thing to  
15 remember on this is these -- this policy doesn't  
16 even kick in until you -- unless you're a user that  
17 submits a minimum number of orders per day, which is  
18 a very high number. So all of those users that have  
19 resting orders in could be hedgers, could be anyone  
20 have resting orders in at three, five, 10, 100 ticks  
21 away from the market. None of those are affected by  
22 this. Those are all -- rest in there. There's no  
23 penalty to anybody for that.

24 So this is -- this is targeted  
25 specifically at users who spend a -- send a very

1 large number of orders.

2 CHAIRMAN GENSLER: Chuck, your thought is  
3 is if you're pretty active in the market, an ATS, if  
4 you're a low-latency trader, you can adapt, and a  
5 very quickly moving market could then put the next  
6 set in.

7 MR. HASBROUCK: We just saw that there was  
8 a -- I think there was a lot of order changing  
9 activity far away from the market. There are all  
10 kinds of levels of HFTs out there and they've all  
11 gotten smarter and better and more proficient, I  
12 think, at their algorithms. But some are, you know,  
13 in early days may not be terribly elegant.

14 And so if there are being different  
15 markets, they could be frequently changing the  
16 prices 30 ticks away from the market and they're  
17 changing it every second, and that really doesn't  
18 add any value to anybody. So what we were trying to  
19 -- we're trying to drive that out.

20 CHAIRMAN GENSLER: That's helpful. Thanks  
21 for that answer.

22 COMMISSIONER O'MALIA: And I assume your  
23 Weighted Volume Ratio is also integrated with your  
24 Interval Price Limit, which is your circuit breaker  
25 approach?

1 MR. WASSERSUG: The Weighted Volume Ratio  
2 is really a next day analysis, whereas the Interval  
3 Price Limit is a real time throttle.

4 COMMISSIONER O'MALIA: And to address, I  
5 think the question the chairman had about the  
6 volume, the messages versus lots traded on page 12,  
7 I assume that on that top line that messages means  
8 the number of messages submitted. Just want to walk  
9 us through what we're seeing on that top line?

10 MR. WASSERSUG: Sure. So we're looking at  
11 a particular strip. This is the Sugar 11 contract  
12 for U.S. futures for May 2013. So in this  
13 particular contract, this particular firm -- this is  
14 based on the firm level, submitted 5,477 orders.  
15 That's -- that was 13.8 percent of the total orders  
16 that they submitted within the Sugar 11 futures  
17 contract.

18 The average quantity that they submitted  
19 across all 5,400 of those orders is 4.82, and 91.91  
20 percent of those orders were the best bid or offer  
21 at the time that they were submitted. And then as  
22 they -- as you go out, 5.2 percent were at the  
23 market. So they matched the best bid or offer at  
24 the time, and et cetera, et cetera as you go out.

25 Based upon all 5,477 orders that were



1 submitted, there were two transactions generated and  
2 each transaction was one lot, or a total quantity of  
3 two lots were generated. And then as you go down  
4 the row, we're looking at again same -- different  
5 strips, but the same metrics used throughout.

6 And again, this is just a -- this was a  
7 sample of one user. It's not the entire percentage  
8 don't add up to 100 there, as you'll see. So this  
9 is just an excerpt from one report.

10 CHAIRMAN GENSLER: So just whispering  
11 to -- Andrei tells me that some numbers that he had  
12 looked at were 99 messages to every one transaction  
13 in the E-mini that must be what I've been using in  
14 some -- so it would be very interesting just to --  
15 because I'm sure each of these markets are a little  
16 different and sugar is probably different than Henry  
17 Hubb, just to understand message to transaction  
18 volumes, which you think is maybe closer to 12 or 15  
19 at least on that other page?

20 MR. WASSERSUG: Correct.

21 COMMISSIONER O'MALIA: Any other questions  
22 for Mark? Oh, Michael.

23 MR. COSGROVE: First of all, just a  
24 clarification. Is the messaging, that 12 to 1,  
25 that's overall market? That's not 12 to 1 for high

1 frequency traders, right?

2 MR. WASSERSUG: That's correct. It's  
3 overall market.

4 MR. COSGROVE: So that could be a basis  
5 for some discrepancy, if the 80 to 1 is being is  
6 being applied to high frequency traders, whereas --  
7 the whole market, okay?

8 MR. KIRILENKO: There's a whole market,  
9 E-mini.

10 MR. COSGROVE: It's the whole market? Got  
11 it.

12 MR. KIRILENKO: Okay, we have -- we have  
13 CME representatives here. They may wish to say  
14 something if they feel like.

15 MR. PAYTON: I think in terms of our  
16 messaging policy, with respect to E-Mini, we  
17 actually have a ratio of 4 to 1 in the E-Mini. So  
18 four messages to every one lot traded is the  
19 threshold for our messaging efficiency policy. So  
20 it's actually the tightest of any of the products  
21 that we have on the exchange.

22 MR. COSGROVE: Great. I do have two  
23 questions. I was curious, how do you adjust price  
24 reasonability validation? Is that adjusted  
25 automatically in real time, daily?

1           MR. WASSERSUG: Yes. That's adjusted in  
2 real time automatically through our trading system.  
3 So for every -- for every price update, the new  
4 reasonability is calculated.

5           MR. COSGROVE: And then my last question,  
6 since the speed limit is applied to individual users  
7 or individuals companies, is there a sort of  
8 standard that -- sort of a standard that applies to  
9 anyone, you know, if you do this volume of business  
10 you get this, or not volume, but is that  
11 standardized or is that somewhat --

12           MR. WASSERSUG: That's a good question.  
13 We have called default settings initially, so that  
14 300 setting, the 30 setting, and then over time we  
15 will work with the individuals from the firms to  
16 understand their trading patterns. So we don't have  
17 any, okay once you've done X amount of transactions,  
18 you've fallen into a particular bucket. Everybody  
19 can be a little bit different. And as strategies  
20 change, so might the speed limits change as well.

21           So it's more on -- it's a unique setting  
22 per user per session.

23           MR. COSGROVE: Thank you.

24           MR. HASBROUCK: I think it's just  
25 important to -- this is an operational protection.

1 It's not -- it's not a mechanism for rationing  
2 bandwidth or capacity or anything else. It's a  
3 really a -- it's really a mutual discovery with the  
4 customer and us and trying -- what is it you're  
5 doing in this session, this log in? What's the  
6 typical type of activity so that we know what to  
7 expect, you know what to expect, so if we're -- so  
8 we can set a limit so that it doesn't let something  
9 beyond what you're expecting to be normal go on.

10 So it's -- that's what that's for. It's  
11 really what Mark's talking about when we say -- when  
12 you're doing -- when you're trading four very liquid  
13 markets with one session ID, part of the reason  
14 we're suggesting you break that out into two or  
15 three IDs is so that if you have a problem with one  
16 of them, it's only affecting one of the markets  
17 you're trading in as opposed to some of the others.

18 It's all -- that part of it is much more  
19 operationally, you know, redundancy oriented as  
20 opposed to compliance or level playing field  
21 oriented.

22 MR. KIRILENKO: I have a question about  
23 this. I'm sorry, about the calculation. Let's say  
24 -- let's say hypothetically you have 100 messages  
25 per one transaction and that transaction was for 100

1 lots. So would your calculation be one message lot  
2 traded? So either one of you.

3 MR. WASSERSUG: Our ratio is based upon  
4 messages per quantity of lots traded, not based upon  
5 transactions. So in that case, the ratio would be  
6 one.

7 MR. KIRILENKO: One to one?

8 MR. WASSERSUG: Yes.

9 MR. KIRILENKO: Right, so if the average  
10 transaction size is not one lot, then you will  
11 divide by that average transaction size and get to  
12 the number of your lots, right?

13 MR. WASSERSUG: Yes.

14 MS. DOYLE: It's purely void.

15 MS. BOULTWOOD: Mark, I was wondering if  
16 you could comment, to what extent are these controls  
17 that you've implemented that's practiced, and is  
18 there a form for comparing across exchanges? You  
19 talked about the ordered renewed based on an FIA  
20 principle. How much of this is common? How much do  
21 you think ICE is just ahead of the pack?

22 MR. WASSERSUG: Well I think ICE is ahead  
23 of the pack. There's actually multiple principles  
24 that the FIA comes down with from an exchange  
25 perspective on how we should mitigate risks in the

1 markets, and I think every one of those bullet  
2 points was one of FIA's best practices. So I feel  
3 like we're well positioned from a risk mitigation  
4 standpoint and an FIA best practices recommendation  
5 standpoint.

6 I know that our exchanges in particular,  
7 you know, we look at reasonability limits. We look  
8 at things like flash crashes. So I think we are --  
9 we, CME and ICE, are both ahead of the game when you  
10 look at us compared to the equity exchanges, stock  
11 exchanges.

12 But again, you know, I think from an  
13 innovation standpoint, IPL that we just recently  
14 released is quite innovative. I don't think anybody  
15 in the industry is doing anything like that. We're  
16 constantly trying to tweak our technology and tweak  
17 the exchange to offer more and more -- you know,  
18 more and more risk mitigation and best practices  
19 within our systems.

20 COMMISSIONER O'MALIA: Steve?

21 MR. JOACHIM: Yeah. I have two questions.  
22 One is, do market participants know what the  
23 threshold, the dynamic thresholds are for the IPL,  
24 and if so, how do you communicate to them on an  
25 ongoing basis what those thresholds look like?

1                   And my second question is, and a whole  
2 different direction is, is test cases. I'm curious  
3 to know how you construct your test cases before  
4 participants come onboard. How do you ensure that  
5 they have fully and adequately tested those  
6 facilities to ensure that there's no damage as a  
7 result of the connections?

8                   MR. WASSERSUG: Good question, Steve.  
9 Regarding the IPL, we provide a framework for how  
10 the IPL is going to operate, so we will provide  
11 information on our website to customers that tell  
12 them how long the IPL period is, how long the hold  
13 period is, and what the range to the upper and lower  
14 threshold is.

15                   So if a customer wanted to, they could in  
16 real time calculate that based upon average price at  
17 a particular time. But it's more important for them  
18 to understand the range that an IPL is going to be  
19 in as opposed to what the actual number is at any  
20 given time. So that's well communicated to our  
21 customers.

22                   Again, we rolled this out two weeks ago,  
23 so it's a learning process for all of us. And as we  
24 make changes to IPL limits, I think we're going to  
25 have to continue to work with our customers so they

1 understand what those limits are going to be.

2 That answered your first question.

3 Regarding test cases, so I mentioned that we have a  
4 pretty significant conformance testing team and  
5 program that all ATSS must go through. We have a  
6 relatively stringent and very long test program that  
7 ATSS must follow, so we give them actual specific  
8 test cases throughout all of the scenarios that we  
9 envision they will deal with from a trading  
10 perspective, and we're actually looking for what the  
11 output of that test case is from the ATS.

12 So they have to fill out a questionnaire,  
13 run through a scenario, fill out what the output is,  
14 generate that back to our team, and then our team  
15 will score the ATS's response to us.

16 We have separate and dedicated  
17 environments, testing environments where an ATS can  
18 go and they will schedule time to run through a test  
19 program so there's no outside influence, potential  
20 anomalies taking place within the -- with that test  
21 system. So we know that they can -- that their test  
22 cases are going to be accurate and valid.

23 COMMISSIONER O'MALIA: Anyone else? Okay,  
24 Michael.

25 MR. GORHAM: Quick question. The SMARTS



1 charts on slide nine, I'm just trying to figure out  
2 how to read that. Can you kind of -- I'm not sure  
3 what those little balls are on the top between the  
4 green and the red.

5 MR. WASSERSUG: I put this thing small so  
6 you couldn't read it. I just wanted to make sure.  
7 So what we have is the balls between the green and  
8 the red are actual traded -- are actual trades that  
9 take place. We have offers and bids, so red is  
10 offers, green is bids. And then you can actually  
11 drill down into those individual data points and you  
12 can look at a particular transaction.

13 So you can see counter-party information.  
14 You can see time stamp information. You can see all  
15 that information in there. And then you can zoom in  
16 and actually look at what the bid offer spread was  
17 at any given point along that curve as well.

18 MR. GORHAM: And the bars along the  
19 bottom?

20 MR. WASSERSUG: I'm assuming those are  
21 just volume bars, total volume that was traded over  
22 that particular time band.

23 MR. GORHAM: Great thanks.

24 COMMISSIONER O'MALIA: For this HFT  
25 Subcommittee, guys, we do have microphones if you

1 want to grab -- if you have a question. I think  
2 there are one on either end. Any other questions?  
3 All right, Dean, you're up.

4           While they're switching over, I think it's  
5 useful to point out, we asked both Mark and Dean to  
6 come in last week and give a similar presentation of  
7 the slides they're showing today to our staff just  
8 so we could develop a baseline for what is being  
9 undertaken by the exchanges in our markets today,  
10 and it was a well-attended event and I think very  
11 useful for our staff.

12           We were in this room and many of the seats  
13 were full, so we appreciate their in-house  
14 presentation as well.

15           MR. PAYTON: Hi. Good morning. Thank  
16 you, Commissioner O'Malia, for hosting this dialogue  
17 today. What I want to do in the time that we have  
18 today is talk a little bit about electronic trading  
19 at CME Group and hopefully to Richard's point that  
20 he made earlier, give people a little bit of  
21 competence with respect to how much information that  
22 we actually have and the capabilities that we have  
23 in the context of oversight for automated trading,  
24 electronic trading generally.

25           So our industry, and obviously the global

1 financial markets in general, right, have  
2 experienced tremendous change and innovation over  
3 the course of the last decade. And technology has  
4 certainly been a critical -- critical driver in that  
5 evolution.

6 I actually began my regulatory career when  
7 we still had IBM Selectrics and white-out in the  
8 office, and certainly things have evolved  
9 tremendously. We have broader markets, much larger  
10 markets, faster markets and more automated markets  
11 than we've ever had before, and that's certainly  
12 required us to change the way that we think about  
13 market oversight and risk management.

14 That being said, certainly again, just to  
15 echo what Richard was saying earlier, automation  
16 itself is fundamentally a good thing, and certainly  
17 most of these studies that have been done in terms  
18 of looking at what we've seen with the  
19 electronification of trading is that the market  
20 quality metrics have substantially improved over  
21 time.

22 And that said, right, I think everybody in  
23 this room certainly agrees that -- that changes have  
24 also dictated that we needed to change the types of  
25 systems and the types of capabilities that we have

1 from a risk perspective and a market oversight  
2 perspective.

3 So to give just a quick picture of kind of  
4 where we are today, electronic trading volume at CME  
5 Group accounts for 88 percent of our total  
6 competitively executed volume with open outcry  
7 accounting for the other 12 percent. Within that 88  
8 percent that was traded electronically, that really  
9 accounts for predominately the overwhelming majority  
10 of our futures transactions and probably just under  
11 a third of our options transactions.

12 Within that overall space though, there is  
13 certain degrees of automation that really are  
14 differentiated by asset class. So the more  
15 financial asset classes like FX, interest rates,  
16 equity indices, those tend to be more automated than  
17 the commodity asset classes, you know, energy,  
18 metals and agricultural.

19 So if you take a quick look at this chart,  
20 this tells us a little bit about the evolution of  
21 what we've seen over time and the improvements that  
22 we've made to our trading infrastructure at CME  
23 Group, along with the broader technology changes  
24 that you've seen in the marketplace have resulted in  
25 much more efficient markets in terms of the

1 turnaround time that you see from the time that the  
2 match engine receives a particular order entry or  
3 order request, and the time that we acknowledge that  
4 back to the customer.

5 So that's actually down to just about 3.5  
6 milliseconds in terms of round trip time, and what  
7 we see there is not surprising, that as the markets  
8 have become more efficient and become faster and  
9 become more automated, you also see corresponding  
10 growth in the market and growth in the messaging.

11 With that admittedly cursory backdrop of  
12 where we are from an electronic trading perspective,  
13 now the question I think is where does that leave us  
14 in terms of how market oversight is evolved? I've  
15 highlighted four particular topics here and we  
16 certainly could spend days, and probably a lot of  
17 folks in this room have spent days thinking about  
18 and talking about these issues.

19 But I just want to touch on four of them  
20 relatively briefly today. The first has to do with  
21 fair access. The second, which we've talked a lot  
22 about and Mark spent a fair amount of time talking  
23 about ICE's controls, is the risk of market  
24 disruption. The third, which I think Richard was  
25 pointing to earlier, is the scope of what the

1 oversight capabilities are. And then fourth,  
2 concerns about trading practices and are there  
3 things that we need to focus on there?

4           So starting with fair access -- so  
5 starting with full fair access, I mean, there's no  
6 question that market participants have different  
7 needs and different business models and make  
8 different choices in terms of how they want to  
9 employ technology in the marketplace. I think  
10 what's important for people to take away is that as  
11 these markets have evolved, what -- we've created a  
12 very level playing field in terms of access and  
13 opportunity to access the markets. So today, all  
14 participants have non-discriminatory access to the  
15 same connectivity options at the same prices. So  
16 that's -- creating that, that level playing field  
17 that everybody has the same opportunity.

18           Additionally, a lot of this talk about  
19 concerns about high frequency trading actually  
20 originated with the press about flash orders that  
21 came out of the equity markets a couple years back.  
22 And what's important again to understand in our  
23 markets is that all the market data is disseminated  
24 to every participant at the same time, and it's the  
25 identical market data. So again, there's a

1 fundamental fairness in the way the market operates.

2           And third, the match engine obviously is  
3 unfailingly objective in terms of the way that it  
4 matches orders. Those matching algorithms that  
5 Globex uses are obviously very transparent to the  
6 marketplace. Everybody understands how they work  
7 and they work the same way for everybody every time.

8           You know, we at CME Group, I think many  
9 folks know recently launched our co-location  
10 facility at the -- at the end of January. Again,  
11 there's been a lot of talk about co-location in the  
12 context of fair access and that actually continues  
13 the drive toward fair access for all participants.

14           So you have a situation where everybody  
15 has access to the co-location facility, again, at  
16 the same prices and on the same terms. Today I  
17 think we have about 120 firms that are live at the  
18 co-location facility, and that includes a diversity  
19 of firms. There is proprietary trading firms.  
20 There's hedge funds. There's intermediaries and  
21 banks. And importantly, there are service providers  
22 who take space at the co-location facility and make  
23 that available to a broader set of market  
24 participants.

25           And again, within that facility, it is

1 ensuring that everybody has equidistant -- precisely  
2 equidistant connections to the match engine to  
3 support that fairness in the process.

4           So the second issue is how regulators can  
5 actually oversee what's happening in these very  
6 dynamic markets. Today, we have a very, very  
7 granular audit trail that allows us to track every  
8 order, every modification, every cancelation, every  
9 transaction, every book state change, and we can do  
10 all of that at the millisecond level.

11           So in terms of some of the points that  
12 Richard was making, there really isn't any mystery  
13 as to what actually is being transacted in the  
14 marketplace and how each order and each change to an  
15 order is interfacing with the broader market.

16           So if we take just a quick picture of the  
17 scope of some of the audit trail tools and the  
18 amount of information that we're taking in from a  
19 regulatory perspective, on the order entry side,  
20 through our RAPID system, we're taking in somewhere  
21 north of 250 million messages a day, and each of  
22 those messages has up to 35 data fields. We also  
23 have the cleared trade data, which is the process  
24 data that's coming through the clearing house. That  
25 data is very enriched, includes a lot of additional



1 attributes, 120 data fields, 7.5 million  
2 transactions a day.

3           And then our market data system, which is  
4 giving us all the order book information, price  
5 volume, book state changes, and that's another 80 to  
6 100 million messages that we're taking into our  
7 regulatory systems every day. So that's a  
8 tremendous amount of detailed, very detailed  
9 transactional data that is on the desktops of the  
10 regulatory team, and we'll talk a little bit more  
11 about these tools that we used to actually review  
12 that activity.

13           One other thing to keep in mind is in  
14 addition to all the transactional data that we have,  
15 we obviously have large trader reporting in our  
16 industry and so we not only have the transaction  
17 data, but we have the end-of-day position data of  
18 participants in our market.

19           So we know what's happening in the market.  
20 The question then is do we know who is acting in our  
21 market place? And again, just going to the point of  
22 how much detailed information that we have, when an  
23 order comes in to us at CME Group, we obviously get  
24 the clearing firm that's guaranteeing the trade, the  
25 trading firm that's submitting the trade, the

1 session ID, which basically is the connection that  
2 Mark was talking about earlier, that are all  
3 identified as part of the order.

4 We also have an account number --

5 COMMISSIONER O'MALIA: Hey, Dean, can you  
6 pull up your microphone a little closer?

7 MR. PAYTON: Sure. We also have  
8 attributes, including the account number, which for  
9 all member and member accounts at the exchange are  
10 actually registered. We have the country of origin  
11 from which the order originated. We have this ATS  
12 order identifier, which was something that we  
13 introduced last year which designates whether a  
14 particular order is being entered into the system  
15 through automated means or manual means.

16 So those are some attributes on the  
17 periphery of what comes in. Importantly, in the  
18 center here you have two additional -- two  
19 additional pieces of information. First is the  
20 operator ID or the Tag 50. This is a unique  
21 identifier for the particular individual who's  
22 interacting with the system. So essentially it's  
23 the person who is entering the order into Globex.  
24 We register all member, member firm employee  
25 operator IDs. We have their names. We know who

1 those individuals are.

2 And in the case of an automated trading  
3 system, the way those are registered is that you  
4 have a head trader and you also have the team of  
5 individuals who support that ATS. So you may have a  
6 risk manager. You may have a secondary trader. You  
7 may have a monitor. All those folks would be  
8 registered with the exchange for those Tag 50s that  
9 are required to be registered.

10 Additionally, something that we do  
11 internally at CME Group is identify the market  
12 participant ID. And so when we are looking at  
13 information on our regulatory systems and there's a  
14 transaction for a particular account, we not only  
15 know this unique account number at this firm, but we  
16 also know who the controller is of that account. So  
17 we have a name associated with each of these  
18 transactions.

19 So again, there's very deep visibility in  
20 terms of who's participating in the market and  
21 exactly what it is that they're doing. And when you  
22 think about this in the context of what regulators  
23 are able to see in an electronic environment, I mean  
24 this is an incredibly precise, rigorous audit trail  
25 that has been developed, right? And this has been

1 evolving over time, things like the country of  
2 origin ID and the ATS order identifier or newer  
3 tags.

4           You know, the market participant ID is  
5 something that we developed over time because it  
6 substantiated the types of surveillance that we were  
7 doing in our market. So we've got all this data,  
8 very good data, and the question is, well, how does  
9 the oversight work within the exchange? And it's  
10 really a multifaceted operation that we use in order  
11 to effectively oversee trading at CME Group.

12           So I'll start up in the left with the  
13 global command center. So that -- the global  
14 command center is really the epicenter of market  
15 operations for our electronic trading facility and  
16 the staff there has terrific technology that they're  
17 using to monitor the markets 24/7. So they run  
18 shifts of people who are constantly monitoring  
19 what's going on in the market.

20           This is the group that also works to  
21 establish the risk parameters for the risk controls  
22 that we'll talk about in a little bit. They are the  
23 folks who manage our messaging efficiency program.  
24 They have tools that allow them to carefully monitor  
25 kind of the guts of what's happening on Globex and

1 manage messaging efficiency. They're also the group  
2 that handles our trade cancelation and price  
3 adjustment policy, and they would manage any issues  
4 associated with trading halts.

5           The clearing house risk group is another  
6 group that has important functions, the context of  
7 how we oversee automated trading. This group is  
8 responsible for doing risk management reviews of all  
9 of our clearing firms in terms of how they manage  
10 risks, credit risks and electronic execution risks  
11 for each of the clearing firms.

12           We'll also talk a little bit about Globex  
13 credit controls, but they administer those important  
14 controls for us. And we've also developed certain  
15 types of alerting capabilities that is on a live  
16 basis monitoring what's going on on the Globex  
17 platform, keeping track by account of positions in  
18 each particular contract.

19           So the alerts that we have will identify  
20 both position alerts and volume alerts, both on an  
21 absolute level and based on something that's  
22 anomalous for that particular account. And we have  
23 staff in clearing risk that are monitoring those,  
24 again, on a real time basis throughout the day.

25           And then Market Regulation is responsible

1 obviously for conducting trade practice  
2 surveillance. We have a wide variety of programs  
3 and research efforts that we use to monitor the  
4 activity in our markets for potential market abuses  
5 and concerns that we might have there, and there's  
6 very robust data query and analytical tools that  
7 support those efforts, including the tools that --  
8 we have both the position and volume live alerting  
9 tools, as well as market alerting tools that  
10 identify on a live basis for us when there are  
11 anomalies in terms of the amount of volume trading  
12 in a particular product or a price move in a  
13 particular product.

14 So we've got a number of different  
15 transactional systems. And again, this is kind of  
16 what's key to how we evolved in terms of oversight  
17 of these markets. What we've done, we anticipated a  
18 lot of the changes in the growth in the markets and  
19 developed capabilities that really allow us to see  
20 deeply in terms of what's happening, who's doing  
21 what and when.

22 So our RAPID system is actually a system  
23 that's connected into the Globex infrastructure and  
24 we use this on both a live and historical basis.  
25 But it's a very powerful tool that allows us to read

1 and aggregate up to a billion messages per second.  
2 So we can immediately pull up any detail that we  
3 want about orders or trades that occur on the Globex  
4 system. We're able to aggregate that data extremely  
5 rapidly, so to the extent that I wanted to identify  
6 who the highest messaging Tag 50s or firms were in  
7 the E-mini over the last quarter, I mean, literally  
8 that's an exercise that takes seconds for us to do  
9 with the tools that we have available to us.

10 It also allows us to reconstruct the order  
11 books, both on an individual basis, so we can see an  
12 order book and who's behind each of the orders at  
13 the price levels in the order book.

14 Our SMARTS system is the system that we  
15 use that is a very highly enriched data set. So we  
16 have a tremendous amount of data in the system. We  
17 use it on a T+1 basis and it captures information  
18 from all the venues that we trade on at the  
19 exchange. But the capabilities of the system are  
20 very sophisticated. We maintain participant and  
21 market profiles for all of our markets and everybody  
22 who trades within our markets, and what that allows  
23 us to do is to identify anomalies and to also use  
24 those anomalies in the context of the pattern  
25 detection capabilities that we have.

1           So we have identified a host of different  
2 types of potential market abuses that we use the  
3 pattern detection capability to identify and it  
4 really allows the analysts in the market regulation  
5 group to do a whole host of things that really allow  
6 us to protect the integrity of the marketplace.

7           The volumetric analysis again is something  
8 that gives us pictures into what's happening in the  
9 market. So for example, if we wanted a picture of  
10 what happened during a day or a 10-minute period  
11 during the day, it will break out for us on a  
12 minute-by-minute basis, a second-by-second basis,  
13 you know, how much volume was trading, what the  
14 price move was, and show that to us graphically in  
15 order to pinpoint places that we may need to focus  
16 on.

17           The Armada system is a third system that  
18 is our order data system. It allows us to look at  
19 all of the data that is being distributed probably  
20 to the marketplace. So we can see the book as any  
21 market participant would see the book. And what  
22 that allows us to do as well is replay the market.  
23 So any time we want to, we can take a particular  
24 slice of the market and we can go in and basically  
25 do a market replay and we can do that at speeds that



1 humans can actually understand what's going on. So  
2 we can slow it down and actually see message by  
3 message what's happening in the market and how  
4 that's impacting the marketplace.

5           Within the market regulation department,  
6 there's a host of different types of surveillance  
7 and investigations that we conduct and I've  
8 highlighted a few of them here. So one type of case  
9 that we will work on are cases related to disruptive  
10 risk management problems. So as folks have talked  
11 about around the table this morning, one of the  
12 risks of highly automated marketplaces is that  
13 things can go wrong with technology, and that does  
14 happen from time to time.

15           And so when we go in we're looking at the  
16 risk controls, the testing, the supervision  
17 processes that people have in place to prevent those  
18 types of events from occurring. There's also the  
19 potential for disruptive trading or messaging  
20 practices. There's been significant talk about  
21 issues related to spoofing, manipulative conduct in  
22 the marketplace. And again, as I think Richard was  
23 pointing out earlier, the data, very granular and  
24 precise data is there for us to be able to look at  
25 how particular participants are interfacing in the

1 marketplace and to identify whether or not there is  
2 something that's problematic around that activity.

3           There's also a variety of trade practice  
4 abuses that we have patterned detection modules to  
5 identify and certainly we're focused on various  
6 types of anomalies in the marketplace and following  
7 through on complaints that we receive from market  
8 participants.

9           So the fourth piece is really the issue  
10 around risks. And at CME, again, as the markets  
11 have evolved and technology has evolved, we've  
12 really worked on building very robust risk  
13 management and volatility mitigation tools that  
14 allow us to protect the market, and a lot of these  
15 tools are similar to those that Mark talked about.  
16 And so in the interest of time, I'll focus on a  
17 couple of them that are different than those that  
18 Mark talked about.

19           So the protection points for market and  
20 stop orders, if somebody enters a market order into  
21 a CME Group market, it will automatically assign a  
22 limit price to that order. So that market order can  
23 only move the market so far and if it's not filled  
24 in its full quantity at that level, it becomes a  
25 limit order at that point.

1                   So a lot of the issues that we saw in the  
2 context of the Flash Crash on the equity side where  
3 you have market orders going into the marketplace  
4 and trading down to zero or up to exorbitant levels,  
5 those types of events can't occur in this market  
6 because a market order is going to be stopped before  
7 it moves through that far in the book, and the same  
8 with stop orders.

9                   We have similar to ICE, dynamic price  
10 banding, maximum order size protection and we also  
11 have stop logic functionality, which again  
12 identifies within the marketplace the potential for  
13 stops to be elected and cascade down. And so what  
14 we'll do when that condition is identified within  
15 the engine, we'll actually pause the market for  
16 somewhere between five and 20 seconds, depending on  
17 the particular market.

18                   And again, what that does is allow  
19 liquidity to come into the marketplace, and assuming  
20 that it does, that market will then reopen after  
21 that short pause.

22                   COMMISSIONER O'MALIA: Hey Dean?

23                   MR. PAYTON: Yes?

24                   COMMISSIONER O'MALIA: Wrap it up.

25                   MR. PAYTON: Okay. The last two are the

1 messaging volume controls. And again, similar to  
2 those that ICE has, we do that on a rolling time  
3 period and then on the Globex credit controls, these  
4 are controls that were built, again, something that  
5 was quite innovative, because people were reluctant  
6 to use controls from the standpoint that it impacted  
7 the latency.

8           So the Globex credit controls were built  
9 in a way that it doesn't impact latency in terms of  
10 coming to the engine, and it provides firms with the  
11 ability to get e-mail notifications when somebody  
12 reaches a particular threshold. If they breach a  
13 threshold, it allows them to take any number of  
14 automated actions in the marketplace.

15           So I'll leave it there for the moment and  
16 open it up to any questions.

17           COMMISSIONER O'MALIA: Thank you, Dean. I  
18 have -- your Tag 50 discussion in 128, Mark, I  
19 assume ICE has similar tags?

20           MR. WASSERSUG: Yes, that's correct. We  
21 do. It's not exactly the similar tag numbers and  
22 names. We don't tag as many tags as they have on  
23 those fixed orders. We rely actually on a few  
24 secondary systems that are outside of the order  
25 itself for the registration of ATSS and the names

1 and the countries and all those types of things.

2 COMMISSIONER O'MALIA: But in the data  
3 that we would receive that you provided the  
4 Commission, we would know whether it's an ATS or  
5 not?

6 MR. WASSERSUG: Correct. Yes.

7 COMMISSIONER O'MALIA: Dean, on the market  
8 abuse area you identified in this disruptive trading  
9 and messaging, have you -- I assume you have, and  
10 you've referred it to us, but can you identify a  
11 nefarious practice that you've identified that  
12 you've kind of worked through and said, you know,  
13 this really isn't good for our markets and kicked it  
14 off? And if so, what was that?

15 MR. PAYTON: Sure. You know, there's any  
16 number of them, but if we start at the top, we've  
17 obviously had situations where somebody had an  
18 algorithm that was operating in the market that  
19 malfunctioned and didn't operate the way that it was  
20 intended to operate.

21 COMMISSIONER O'MALIA: Can you speak up a  
22 little bit? Get a little closer.

23 MR. PAYTON: Yeah. In those cases, we've  
24 actually gone in, investigated what led to the  
25 disruption in the marketplace and took appropriate

1 action with respect to the firms and also ensured  
2 that the remedial actions were taken in terms of the  
3 risk controls and having appropriate testing and  
4 supervision in place.

5 From a disrupted trading practices  
6 standpoint, we've had a lot of discussion with the  
7 Commission around those topics and in the context,  
8 for example, of spoofing, one type of practice that  
9 from an exchange standpoint that we find disruptive  
10 and would be a problem, would be a situation where  
11 somebody is entering an order without the intent to  
12 execute that order for the purpose of misleading  
13 other market participants and then exploiting that  
14 deception for their own benefit.

15 And we recently had a case that I think  
16 the Commission is aware of where we identified that  
17 type of conduct and again, took appropriate  
18 disciplinary action.

19 There's other types of conduct that we've  
20 identified in terms of activity during the  
21 pre-opening period, so activity that occurs prior to  
22 the time that the market is open, but orders are  
23 coming into the market. And there was activity that  
24 was designed to be manipulative in terms of the kind  
25 of conduct that was being transacted. And again,

1 we're able to identify that conduct, deal with it  
2 from a regulatory perspective.

3 COMMISSIONER O'MALIA: Any questions? Any  
4 other questions?

5 MR. KIRILENKO: I have a question, Dean,  
6 about -- I think you mentioned in passing about  
7 something about particular methods, a throttling  
8 policy that you have for the E-Mini. Could you  
9 maybe elaborate more broadly about what your message  
10 for the throttle policy is?

11 MR. PAYTON: There's actually two  
12 different issues. One is the messaging efficiency  
13 program, which very much like Mark talked about is  
14 really an operational program that is designed to  
15 work with market participants to ensure that the  
16 messaging that they're bringing into our marketplace  
17 is responsible and efficient.

18 So for each of our select product groups,  
19 we identify a product benchmark. So again, that is  
20 the total number of messages relative to the total  
21 volume that's executed. And those benchmarks are  
22 different depending on the profile of the particular  
23 product, and our global command center team is the  
24 team that works with market participants in the  
25 event that they breach one of those messaging

1 thresholds. They'll work with that participant in  
2 order to help them fine tune their messaging  
3 practices in a way that serves the marketplace in a  
4 more effective manner.

5 The messaging throttles are something  
6 different. That's really a risk control that's  
7 designed to protect against a market disruption, a  
8 runaway algorithm. In those cases, we've got  
9 particular standards that we set in terms of the  
10 number of messages over a rolling time period and in  
11 the event that that's breached, we have the ability  
12 to either reject those messages coming in, and at  
13 some point they can actually be automatically  
14 disconnected.

15 So it really goes through three stages of  
16 warning, reject, disconnect.

17 COMMISSIONER O'MALIA: When we -- when Dr.  
18 Gorham put together a pre-trade functionality, we  
19 spent a lot of talk -- we spent a lot of time  
20 talking about the wash sale issue and what checks  
21 exchanges can do to prevent excessive amounts of  
22 wash sales. It never made it in to the trade  
23 practice -- abuse pre-trade functionality to ban it.  
24 Has there been any evolution as a technology with a  
25 lot of trading across market? People are invariably



1 hitting themselves in terms of trades. How are you  
2 minimizing that?

3 MR. PAYTON: Yeah. Well, there's two  
4 ways. So first, the technology is out there for  
5 front-end systems to implement wash blocker  
6 functionality. So basically what wash blocker  
7 functionality does is if I have an offer at 10  
8 sitting in the market and I decide that I want to  
9 buy 10s, when I enter my order to pay 10 for 100,  
10 what that will do is automatically cancel my offer  
11 before my buy order goes in.

12 So that functionality is widely available  
13 and widely used. So that's probably the primary way  
14 that market participants avoid trading with  
15 themselves. From our standpoint, in terms of the  
16 way that we police issues related to wash trading,  
17 to the extent that there are inadvertent washes,  
18 again, that's a situation where we will identify the  
19 conduct through our surveillance programs and then  
20 we will work with those market participants to  
21 identify what are the circumstances that are leading  
22 them to trade with themselves.

23 In some cases, market participants don't  
24 have -- again, their algorithms aligned or tuned in  
25 the most optimal way and we'll work with them to

1 address that.

2 CHAIRMAN GENSLER: I'm glad Commissioner  
3 O'Malia has raised this, because this is one that's  
4 -- we've all talked about on a number of occasions.  
5 I'll leave it at that.

6 You say wash blocking software is  
7 available for market participants, widely available  
8 you said.

9 MR. PAYTON: Correct.

10 CHAIRMAN GENSLER: Do you think it's  
11 widely used?

12 MR. PAYTON: I do think it's fairly widely  
13 used. It's not -- it's not all market participants.  
14 And again, there may be situations when that wash  
15 blocker functionality doesn't quite work, because  
16 you have the cancel and the order entry, which are  
17 two messages that are going in, and sometimes  
18 they'll miss each other and the transactions will  
19 occur anyway. But --

20 CHAIRMAN GENSLER: So if I can ask you in  
21 a hypothetical.

22 MR. PAYTON: Sure.

23 CHAIRMAN GENSLER: If it's widely  
24 available and widely used, do you think that we  
25 should see in our surveillance data that firms are

1 meeting themselves on a regular basis or on a very  
2 rare basis?

3 MR. PAYTON: I think that you will see  
4 that it's rare in the context of the overall  
5 activity. So --

6 CHAIRMAN GENSLER: And if we're seeing one  
7 firm hypothetically that is not rare, what would  
8 that mean?

9 MR. PAYTON: Well, I think that you'd have  
10 to look at it and understand what's happening in  
11 that particular situation.

12 CHAIRMAN GENSLER: Do you consider -- I'll  
13 pick on Rich, because he's sitting there. But if  
14 Rich's firm meets Rich's firm on some regular and  
15 repetitive basis, that's a bunch of wash sales? I'm  
16 just -- but there wasn't a -- it could have been --

17 MR. PAYTON: Yeah, it really depends on  
18 the circumstance. So Rich may have 20 different  
19 traders working for him. Each of those traders is a  
20 separate operator and separate individual in the  
21 market running separate algorithms. In that case,  
22 if there's no intent for those two algorithms or two  
23 traders to meet each other, that doesn't  
24 fundamentally constitute a wash sale. Those are two  
25 traders in a broker place.

1                   CHAIRMAN GENSLER: I don't know. That was  
2 your view. I don't know if it's the Commission's  
3 view. I don't know --

4                   MR. PAYTON: Okay, well, from our  
5 standpoint, a wash sale requires intent. So if you  
6 have two independent traders that are inadvertently  
7 meeting in the marketplace --

8                   CHAIRMAN GENSLER: So my last question, do  
9 you think people are using wash blockers to ensure  
10 that two of their traders don't meet, or that one  
11 trader doesn't meet themselves?

12                  MR. PAYTON: Yeah. It's predominately for  
13 one trader not meeting themself.

14                  CHAIRMAN GENSLER: Okay. Thank you. You  
15 want to respond?

16                  MR. GORELICK: Since the chairman picked  
17 on me, I just wanted to chime in a little bit. One  
18 point is generally speaking, firms don't want to  
19 have wash sales because they're expensive. If we  
20 could match a trade internally, we don't pay for  
21 that. If we purchase that service from an exchange,  
22 it's quite expensive. So we do have a lot of  
23 motivation to use the tools to prevent those washes  
24 where they are available.

25                  CHAIRMAN GENSLER: So you're saying that

1 if you had 20 independent traders, you would prefer  
2 that if one is buying and one is selling that you  
3 did that internally and you didn't go through and  
4 pay the whatever fees?

5 MR. GORELICK: Exactly.

6 CHAIRMAN GENSLER: And do you use this  
7 wash blocker software?

8 MR. GORELICK: You know, I'm not -- I'm  
9 not sure if we use the specific feature that he's  
10 mentioning at the CME, but I know we use that type  
11 of technology on a variety of exchanges wherever  
12 it's offered.

13 CHAIRMAN GENSLER: Oh, I'm sorry, so it's  
14 an exchange software, or is it something they have  
15 had?

16 MR. PAYTON: No. This is front-end  
17 software as opposed to an exchange software.

18 MR. GORELICK: But many --

19 MR. PAYTON: There are exchanges that have  
20 that.

21 CHAIRMAN GENSLER: I'd be interested, as  
22 these subcommittees work, to learn more about this  
23 whole area that Commissioner O'Malia raised, and  
24 certainly been one that a number of us have been  
25 talking about is how to in this rapid environment,

1 stay with the spirit and the letter of the law  
2 against wash sales.

3 MR. VICE: If I may just comment there. I  
4 think from an exchange standpoint, we would -- if  
5 Rich's firm accounted for let's say 5 percent of the  
6 volume in a given market, then -- and we knew that  
7 he had traders running independent strategies in  
8 that market and our strategy and some other type of  
9 strategy, then we wouldn't expect him to run into  
10 his own traders more than 5 percent of the time.

11 So I think there are some kind of rough  
12 metrics there that we look at, probability analysis  
13 type of thing, that would -- if it's much higher  
14 currency that, then you have to ask yourself is  
15 there some intent here and something else going on  
16 as opposed to independent strategies being executed  
17 independently.

18 And I think it's important that they --  
19 that those independent strategies be able to rely on  
20 the bid offer in that market, even if it's an  
21 affiliated strategy. Otherwise, you're essentially  
22 saying a fund can only run one strategy in a market  
23 at one time, and I don't think that's going to be  
24 good for the markets or liquidity.

25 So I think -- and I don't like using the

1 term "wash trading" so loosely either. It does --  
2 intent is a key element of that. We refer to it as  
3 paired trading for lack of a better term. Paired  
4 trading. And then we look at paired trade  
5 occurrences to see if this is a possible evidence of  
6 wash trading, of actual wash trading where there is  
7 some intent that we can see.

8 CHAIRMAN GENSLER: But I take it from what  
9 Rich was saying, they would like to take the paired  
10 trades and match them in their own world because  
11 then they logically wouldn't be transferring some of  
12 their economic returns to you as an exchange  
13 operator. You might want them to take their paired  
14 trades to the exchange. There might be --

15 MR. VICE: I mean, clearly they're  
16 motivated to not do that, as Rich said. We don't --  
17 I mean, we've got the priorities of the day, a lot  
18 of priorities above a consideration like that.

19 COMMISSIONER O'MALIA: I do think this  
20 issue is probably right in the wheelhouse of  
21 probably the working group four, kind of a  
22 microstructure issue. So hopefully they'll address  
23 it. Steven?

24 MR. JOACHIM: This will be a question for  
25 both Mark and Dean. Do you do any cross-market

1 surveillance? Do you cooperate in terms of  
2 regulatory activity, so if you have a few pieces in  
3 one market, do you share information across the  
4 other market?

5 And then a corollary to that is do you  
6 also look at the underlying cash markets that --  
7 where there are cash markets, and for arbitrage  
8 abuses across those markets?

9 MR. PAYTON: Yeah. I think that broadly  
10 speaking the cross-market surveillance primarily  
11 occurs outside of the particular exchange venue.  
12 That being said, to the extent that we have  
13 information in our markets that creates concerns for  
14 us, we're members of, for example, the Intermarket  
15 Surveillance Group.

16 So we have had occasion where we may be  
17 looking at something in our E-Mini contract and in  
18 order to conduct the kind of analysis that we want  
19 to conduct, we require information from one of these  
20 securities exchanges, and they cooperate and provide  
21 that information, as we would to them.

22 So I think that some of the cross-market  
23 surveillance issues, I think, are an area where the  
24 federal regulators need to have a significant impact  
25 on that.



1                   MR. WASSERSUG: Just to add to what Dean  
2 was saying. From a cross-market perspective, we  
3 actually look at, since we have some complimentary  
4 markets, to SEMI markets as well. We are actually  
5 looking at SEMI data feeds as we do our analysis.  
6 So as I showed you that SMARTS analytical tool,  
7 we'll actually pull in SEMI data feed prices so we  
8 can look at alerts not only on our market, but also  
9 at the SEMI market for complimentary markets, to  
10 determine if there might be an anomaly in one market  
11 and how that might impact our market as well.

12                   MS. BOULTWOOD: A related question on  
13 cross-market kind of opportunities, because the  
14 reality is you compete as exchanges on specific  
15 locations, contracts. And how do you look at  
16 business practices that one thing might be  
17 encouraging volume, like co-location facilities,  
18 which you both have, or volume rebates to  
19 participants, or the initial margin rates that you  
20 charge on contracts that might be very similar in  
21 cases where you do compete? Is there an exchange of  
22 information on those types of items, or do you just  
23 let the market work so to speak?

24                   MR. PAYTON: I think broadly speaking we  
25 do what we think is right for our market and market

1 participants. So when you talk about something like  
2 margin, that's not a competitive issue for us.  
3 That's a risk issue for us. So we're setting our  
4 margin levels at those levels that we think are  
5 appropriate for our marketplace in order to manage  
6 the risk that we have to manage at the clearing  
7 house.

8           So something like that isn't a competitive  
9 issue for us. From the standpoint of something like  
10 co-location, certainly the efficiency of your market  
11 infrastructure is a competitive issue, and from CME  
12 Group's perspective, we're always going to be  
13 looking to innovate and be able to provide our  
14 customers with the kinds of services and products  
15 that will attract them to our exchange.

16           MR. WASSERSUG: We do compete with the  
17 CME. We make publicly available information that is  
18 deemed to be publicly available and necessary for  
19 our participants to be able to determine where they  
20 want to do their business.

21           I think for some of the inside baseball  
22 pieces, that we keep that very close at heart. And  
23 we don't really look to share information outside of  
24 our company that is -- that we deem to be valuable  
25 to us.

1                   CHAIRMAN GENSLER: Do you keep it like  
2                   stucco?

3                   MR. WASSERSUG: A little bit, yeah.

4                   COMMISSIONER O'MALIA: Any other  
5                   questions? Then we'll get on to our next panelist,  
6                   Joel Hasbrouck.

7                   MR. HASBROUCK: First, thank you,  
8                   Commissioners, for the opportunity to discuss these  
9                   issues. I'm going to talk a little bit about some  
10                  of the broad-brushed stuff that is going on in the  
11                  academic research.

12                  First, in the studies I'm going to be  
13                  discussing, most of them are based on what's going  
14                  on in the equities markets. This is important for  
15                  two reasons. First, equities are in futures, and  
16                  second, the market structure is different. The  
17                  equity markets are very fragmented. When we see  
18                  something, we ask ourselves, is this an attempt to  
19                  somehow, or an artifact of somebody trying to tie  
20                  these disparate markets together?

21                  When people discuss high frequency  
22                  traders, there's no precise definition, but as it  
23                  gets implemented in practice, they tend to be large.  
24                  They cover multiple markets, not just one. I should  
25                  say, not just one exchange. They co-locate. They

1 account for a lot of the message traffic, and they  
2 react very quickly.

3           The trading styles, the studies will be  
4 able to generalize. There are high rates of order  
5 cancelation. There's high turnover, as very tight  
6 position management, meaning not only do you go home  
7 flat, you go to lunch flat. You end every five  
8 minutes flat. It's very, by and large, very  
9 disciplined and very controlled.

10           And for that reason, we often compare them  
11 to market makers. And in fact, many of them do  
12 trade passively like market makers, putting out a  
13 bid or an ask and waiting for somebody to come in  
14 and hit it, but not all the time. They also trade  
15 very actively as necessary when they need to lay off  
16 the position or when they need to simply take  
17 advantage of market timing.

18           Now most of the studies are equity market  
19 studies. The first one I'm going to discuss is not.  
20 This is a study that Andrei did with people in the  
21 CFTC and outside.

22           One aspect of it certainly was looking at  
23 the May 6th crash, and the main conclusion there was  
24 that the high frequency traders didn't trigger it  
25 certainly, but they weren't complete bystanders

1 either. But for today's purposes, the more  
2 important thing is how do the high frequency traders  
3 behave in normal times, and the answer, according to  
4 the study, is that they behave like market makers,  
5 low inventories, high turnover. But by comparison  
6 with our traditional market makers, they do tend to  
7 trade more actively.

8 Another recent study, this one is from  
9 European equities, and it's interesting, because it  
10 shows the effect of the entry of high frequency  
11 trading. It's a study by Albert Menkveld on the  
12 Chi-X system, which is an alternative market to the  
13 Euronext Equities Markets. The Chi-X is dominated  
14 by one high frequency trader.

15 What Albert found is that when this trader  
16 entered spreads at all the markets, that is, the  
17 Euronext markets, the so-called primary markets,  
18 dropped as well. The high frequency trader, to  
19 nobody's surprise, is profitable. Most of these  
20 profits occur in positions that are held five  
21 seconds or less. So very quick, rapid profit  
22 realization and 80 percent of its trades are  
23 passive.

24 Gideon Saar, Cornell and I have looked at  
25 about 500 stocks on NASDAQ's Inet system and when we

1 look at our strategies of cancel and replaces and  
2 seen their effect on what's going on in the book --  
3 and generally when this kind of thing takes off, you  
4 see lower posted spreads, lower effective spreads,  
5 short-term volatility drops, and there's increased  
6 depth.

7           Now the reason causes here is in quotes is  
8 that in econometric analysis, we use that as a  
9 statistical causality, not a mechanical or deep  
10 relationship causality. NASDAQ made a contribution  
11 last year putting together a collection of trades  
12 from members that it identified as high frequency  
13 traders by the usual criteria, co-location, high  
14 turnover and so forth, and their data, which they've  
15 made publicly and generally available to all  
16 academics, records all the trades and all the  
17 prevailing quotes.

18           And here there have been a couple of  
19 studies using this data. One, high frequency  
20 traders are very active. They're involved in about  
21 68 percent of the volume, sometimes demanding  
22 liquidity, often supplying it. Their strategies  
23 tend to be correlated. That is, they're not  
24 independent. They tend to move in the same  
25 direction. They tend to herd.

1           There's also some evidence that they can  
2 predict future order flow, and that's an important  
3 point I'll come back to, because it alludes to their  
4 -- the source of high frequency trading profits.  
5 What do they do to volatility? Well, it depends.  
6 Does volatility draw in high frequency trading? It  
7 depends whether you're talking about the broad  
8 market or stock specific. If it's broad market  
9 volatility, high frequency trading in the individual  
10 issues tends to increase.

11           But if stock specific volatility goes up,  
12 HF activity tends to drop. Going in the other  
13 direction, if high frequency trading increases, that  
14 tends to be followed by reduced volatility. Again,  
15 that's an association, not necessarily a causal  
16 mechanism.

17           Terry is also participating, and Ryan  
18 Riordan have also looked at these data and find that  
19 the high frequency traders, when they're trading  
20 actively, they tend to anticipate subsequent price  
21 movements. In other words, they seem to have better  
22 information.

23           The conclusion this study draws is that  
24 high frequency activity enhances what's called price  
25 discovery, price formation, and also market

1 efficiency, that is, information gets into the price  
2 more quickly.

3           So if we can summarize these studies, and  
4 this is just some of the key ones, the effect of  
5 high frequency trading seems to be beneficial or  
6 benign. Now having drawn that reassuring  
7 conclusion, I'd like to point out some of the  
8 limitations. First of all, we're not quite sure  
9 what information is driving high frequency trading  
10 activity and how it makes markets more efficient.

11           The other qualification is that these  
12 studies characterize average or routine or ordinary  
13 market behavior, not sort of the extremes. These  
14 are important points, so let me elaborate.  
15 Efficiency, we say a market is more efficient when  
16 it reflects information more quickly. This idea is  
17 a holdover from the idea of fundamental information.  
18 If there are fundamental economic developments, we  
19 want them to be in the price as soon as possible.

20           For example, we have regulation, FD in the  
21 equities markets. Company makes an announcement.  
22 Everybody has to get the same info at the same time.  
23 The value of informational efficiency is less clear  
24 when one player is trading on advance knowledge of  
25 another trader's order, or an advanced guess.



1                   And a paper by Jarrow and Protter have  
2 looked at that and concluded -- and I might point  
3 out this is an empirical paper, a theoretical paper,  
4 not an empirical one -- they point out this is  
5 obviously dysfunctional.

6                   Now I'd like to talk about some of the  
7 extreme behaviors. Although volatility and high  
8 frequency trading seems to not exacerbate each other  
9 in normal times, when you look at the data, you see  
10 some rather strange cases that are difficult to  
11 explain. Now these are from the equity markets, so  
12 nobody in this room has to feel threatened. You  
13 didn't regulate it. You didn't run the market which  
14 it arose.

15                   But the question is, can it -- can it  
16 occur in the futures markets? So here -- and I also  
17 don't mean to imply that these are -- that there was  
18 manipulative intent here. But I'm going to show you  
19 two cases. This is the National Best Bid and Offer  
20 for ticker symbol AEPI. And there are -- this is  
21 not a singular case. There are many cases like  
22 this. The National Best Bid is in blue. The  
23 National Best Offer is in red, from a typical day  
24 about a year ago.

25                   Now there's not a lot of fundamental

1 information hitting the market here. And yet, in  
2 the hours shortly before noon, we have incredible  
3 volatility in the bid. If you stepped into the  
4 market to trade during this time, if you'd been  
5 using a market order, the price you would have  
6 received would have depended on whether your order  
7 came in on an even millisecond or an odd  
8 millisecond. This is difficult for us to reconcile  
9 with a well-functioning market, particularly when  
10 there's no fundamental information arriving.

11 Here's another example. This one is from  
12 the Inet system going back about three years on a  
13 nice day in June. Here this is a 10-minute window.  
14 The message traffic is clicking along at about five  
15 to 10 messages per second, and then all of a sudden  
16 shortly after 12:18 somebody throws the switch and  
17 the message traffic jumps up to over 200. Stays  
18 that way for a little over a minute, then they hit  
19 the off switch and it drops back down to five to 10.

20 Again, this is very difficult. Did it  
21 cause a meltdown? No. Did it cause a crash? No.  
22 And yet it imposed certainly a burden on the  
23 systems. Prices were changing during this time and  
24 I would say it introduced noise into the market  
25 process that other participants had to react to. So

1 again, not one of your markets, anybody in the room,  
2 but the question is, could it happen?

3 Thank you.

4 COMMISSIONER O'MALIA: Any questions?  
5 Joe, in the back. There's a microphone down here.  
6 Probably have to turn it on. You can just -- it's  
7 remote, so just grab it.

8 MR. SALUZZI: Hi. I just had a quick  
9 question for the professor. Would you agree, in the  
10 equity markets, of course, that there are two  
11 different sets of quotes, one that you can create  
12 yourself if you had all the technology, being that  
13 we're in a fragmented market, 13 stock exchanges and  
14 so on, and one that the SIP, or the Security  
15 Information Process, provides to the general public?  
16 And if these two quotes are different, is one faster  
17 or slower than the other?

18 MR. HASBROUCK: Okay, it's common  
19 knowledge that the consolidated feed is slower than  
20 the subscriber feeds that the exchanges make  
21 available to their subscribers. If you want to call  
22 that two different sets of quotes, I'd agree with  
23 you. As far as that being sort of a deliberate  
24 technique of sort of a two-tier information and  
25 two-tier pricing, that I can't address.

1 I believe that they -- the exchanges  
2 claim, and I see no reason to doubt this, that they  
3 make the information available to their subscribers  
4 and to the SIP at the same time.

5 MS. BOULTWOOD: Joel, have there been any  
6 academic studies looking at product rates of high  
7 frequency trading? You talked about equities, but  
8 then you looked at sugar or you looked at oil.

9 And then kind of a related question. If  
10 you put global contracts aside, like a WTI contract,  
11 are we studying at geographic differences in high  
12 frequency trading?

13 MR. HASBROUCK: All right, I can give you  
14 a partial answer to that, which is that we observed  
15 what we think of now as high frequency trading first  
16 in U.S. equities markets, not initially at least in  
17 European equities markets. And the reason was at  
18 the time they had cancellation fees and throttling.

19 They have since decided to compete on  
20 latency and as a result, what you have over there is  
21 starting to resemble a lot more closely what we have  
22 here. But that I would say -- oh, and I should also  
23 -- another anecdote from the Foreign Exchange  
24 Market. The people at InterCap tell me that when  
25 they introduced an automated feed, an application

1 program interface to their foreign exchange trading  
2 systems, the traffic just exploded.

3 So you certainly need the means. You  
4 certainly need a low-cost structure, and then it  
5 seems to be why not?

6 MR. GORHAM: The second to the last chart  
7 on AEPI, so this is -- looks like an incredible  
8 illiquid stock. You go for an hour, it looks like  
9 without even a single trade. So what's your  
10 interpretation of this activity? Is it a few orders  
11 come in and then there's a lot of --

12 MR. HASBROUCK: The trades are not  
13 indicated on this graph. As it happens, there was  
14 trading activity near the market open and near the  
15 market close, but not during the period of time when  
16 I -- when I referred to the high frequency activity.

17 Now you can conclude that because there  
18 were no trades, no harm, no foul. But we see  
19 similar instances where there do seem to be trades,  
20 and even if there aren't trades, I view the bids and  
21 asks as important price signals that other  
22 participants are relying on, and any noise in them  
23 at all is cause for concern.

24 That said, when I look in greater detail  
25 at these episodes, I can tell a story about what's

1 going on. On the bid side, I see a series of  
2 attempts to sequentially ramp up the price and then  
3 cancel it, almost as if somebody were trying to run  
4 an auction. But that's speculation.

5 And if they were trying to run an auction,  
6 it did not ultimately end up with a success.

7 MR. GORELICK: First of all, I wanted to  
8 applaud the professor's work today. I think this is  
9 the kind of empirical work that I was talking about  
10 both in terms of the overall market quality side and  
11 in terms of the anomalous trading side.

12 A couple things I did want to point out,  
13 these last couple of slides, which clearly are  
14 unusual graphs and does lead people asking questions  
15 about what's going on here. I think as Commissioner  
16 Chilton said early on in his presentation today that  
17 there are 160 million daily transactions every day  
18 around the world in the financial markets, and with  
19 that volume of transactions, it's not surprising to  
20 me that you'll be able to find anomalous behavior in  
21 particular markets.

22 And as Professor Gorham pointed out, this  
23 may be a relatively illiquid security where you're  
24 probably more likely to see that kind of thing. But  
25 that said, it's exactly the type of unusual behavior

1 that we should surveil for, that the exchanges, if  
2 they see something unusual, they should get to the  
3 bottom of it. They should call up whoever sent  
4 these orders and ask them why they did it,  
5 especially if it's the kind of thing that happens on  
6 a regular basis.

7 And it's exactly the type of unusual  
8 behavior that should be pretty easy to surveil for.

9 MR. HASBROUCK: I want to be clear. I  
10 don't -- I have no evidence, or actually any  
11 suspicions that there was any kind of nefarious  
12 intent here.

13 COMMISSIONER O'MALIA: The old adage about  
14 shooting the messenger. Is there anything we can do  
15 as a Commission to improve the data, to improve your  
16 research, to help things along?

17 MR. HASBROUCK: We are always helped by  
18 better, more timely data, whether it comes from the  
19 Commission or whether from the exchanges themselves.  
20 Andrei in particular has been very helpful at  
21 engaging academics and making opportunities  
22 available, and we urge the Commission to continue in  
23 that vein.

24 CHAIRMAN GENSLER: One thing that I think  
25 I've said this publicly somewhere, but though we've

1     been strained on funding as an agency, we have  
2     gotten a little bit more funding on technology.  And  
3     so earlier this year, we initiated a project where  
4     we'd start downloading order data as well on a  
5     regular basis.

6                 We've been blessed for years -- whomever  
7     did it it was before we were at the Commission --  
8     that we daily get open positions and transaction  
9     data from the exchanges, and that's worked pretty  
10    well.  The SEC does not get that data as a contrast.  
11    So like 9:00 in the morning May 7, we already had  
12    the download of everything, as we do every day.

13                But we don't normally get the order data  
14    unless we go out and ask the exchanges for it, but  
15    we're initiating now because data storage costs have  
16    come down a lot to actually download the order data  
17    into the CFTC.  It's going to take a while.  It's  
18    not going to happen in a couple months.  But it's  
19    just sort of a 18-month to two-year project that  
20    we'll be working with, and I think the exchanges  
21    already know this.  If you didn't, I'm telling you  
22    this, so that we can in our surveillance and  
23    enforcement have that in the futures world as well.

24                MR. TABB:  Is this on?  Now it's on.  When  
25    you look at HFT basically being a more efficient way



1 to make markets, I guess, or creating efficiencies  
2 in the market, are you looking, and are the symbols  
3 that you looked at, are they more large cap names or  
4 are they across the capital spectrum?

5 So are we, you know, having a selection  
6 bias because we're only looking at the more liquid  
7 stocks because that tends to be where they play?  
8 Are we looking across the broad spectrum of  
9 capitalization?

10 MR. HASBROUCK: Initially they were  
11 playing in the high cap stocks, but now I believe it  
12 is much more broad. And my impression also is that  
13 the strategies are shifting from being single market  
14 to multiple market strategies, and I'm basing that  
15 observation on the increased premium that technology  
16 providers seem to be stressing on long distance  
17 latency delays, building high-speed networks for  
18 example, to span the Atlantic.

19 That suggests to me that multiple market  
20 strategies are becoming more important.

21 COMMISSIONER O'MALIA: Sure, Chuck.

22 MR. VICE: I guess I'm struggling to  
23 understand the significance a little bit. I mean,  
24 we put the charts up with squiggly lines and  
25 everybody kind of, what's going on here? As an

1 exchange operator, I'm trying to read, what should I  
2 be doing about this type of activity on one hand? I  
3 think both CME and ICE have talked today about a lot  
4 of steps we take to discourage extraneous messaging.

5           So to the extent that these orders are far  
6 away from the market, and if no interest to anyone,  
7 I think we got effective policies in place to try to  
8 deter that. To the extent someone's running an  
9 auction, and I take that to mean, and you correct me  
10 if I'm wrong, an HFT potentially, or any other  
11 traders improving their bid gradually to see if  
12 there's interest, I call that trading and helpful to  
13 anyone who's looking to sell stock on the other side  
14 of that.

15           So I'd like to hear a little more color  
16 from this very -- you know, this expert group in the  
17 room of what we're to make of this, because I'm  
18 struggling a little.

19           MR. HASBROUCK: First, if I could just  
20 make one point. This is not deep in the book. This  
21 is the national best bid. And also though, I can  
22 assure you, I am puzzled myself about how to look at  
23 it. It imposes a cost on participants, yet it also  
24 makes opportunities available.

25           CHAIRMAN GENSLER: I find myself somewhat

1 thinking the same question Chuck just raised. This  
2 is \$29.30 to 29.70, and somebody's probing, as you  
3 say, maybe creating opportunities. If there was no  
4 transaction in that time frame, then of course there  
5 may have been, as you said, some costs. But if  
6 somebody actually had executed at one of those  
7 prices, they would have done so willingly, I assume.

8 MR. HASBROUCK: On the equities markets,  
9 there would be special concerns because the MBBOs  
10 are being used as reference prices for other trades.  
11 So in a futures market, this would not be a concern.  
12 On an equities market, it would be -- it might be.

13 COMMISSIONER O'MALIA: I think Chuck has  
14 given us a good opportunity. We'll let the panel  
15 think a little bit about it. We're going to go to  
16 Sean to keep things moving, and then we can come  
17 back and maybe you all can reflect on that point.

18 MR. CASTETTE: I think we have the  
19 technology here figured out. It's often times  
20 harder than it seems like it should be, which I  
21 think is a theme for us.

22 Thank you, Commissioner O'Malia, for the  
23 invitation to speak today and the invitation to be  
24 on the subcommittee to define high frequency  
25 trading. As you mentioned at the opening, I've been

1 with GETCO now a little over -- right around 11  
2 years, and in that time I've had a variety of roles,  
3 including chief technology officer, and I'm  
4 currently head of fixed income commodities and  
5 currencies globally for the firm.

6 In my roles at GETCO, one of the things  
7 that I've been able to do is to see a lot of the  
8 tremendous change in electronification of the  
9 markets that we've seen over the last 10 years in a  
10 very first-hand manner.

11 I'm going to share some of that  
12 perspective with you today because I feel it's going  
13 to be beneficial to some of the work that we're  
14 going to do in our subcommittees. I'm going to do  
15 it by giving you some aspects of the history of  
16 GETCO, and along the way providing some perspective  
17 on some of the changes.

18 We were founded in 1999 with the express  
19 goal of facilitating the transfer of markets from  
20 the analog model of pit and phone trading to the  
21 electronic digital age. As we've quoted a couple of  
22 times today, that transition has been highly  
23 successful, and we believe that we were a part of  
24 making that happen.

25 Our early years were dedication to moving

1 the liquidity of the pits in Chicago to the  
2 electronic platforms being developed by the CME and  
3 CBOT. Our first trades involved traders in the  
4 pits, communicating with traders using click-based  
5 trading screens to keep the markets synchronized.  
6 It was a highly competitive endeavor, and in the  
7 largest products, we and others were able to achieve  
8 our goals of moving price discovery from the pits to  
9 the screens where the true market could be seen by  
10 everyone at the same time, not just the select few  
11 at the pits in Chicago.

12           Following our successes in moving  
13 liquidity to the screens, we began market making  
14 these products. Essentially, we moved our traders  
15 in the pits who were making two-sided quotes  
16 upstairs and into an electronic venue. The traders  
17 used technology to calculate the prices of their  
18 markets and manually manage their orders.

19           At this point, we had helped to achieve  
20 our fundamental goal of improving transparency and  
21 competition in the markets. However, we still  
22 believed that spreads could be tightened and  
23 liquidity improved. This feeling pushed us toward  
24 the world of automated trading.

25           Before talking about our experiences and

1 automated market maker, I want you to know a few key  
2 beliefs that drive GETCO. The core of our beliefs  
3 come from our founder's view that strong financial  
4 markets are the lifeblood of the economy. They  
5 believe that the best markets are the ones that  
6 combine a relentless push for efficiency with the  
7 lowest friction as necessary to ensure the safety of  
8 the market itself. You can see these beliefs in our  
9 constant push for increased competition,  
10 transparency and smart regulation.

11           What our founders did not set out to  
12 create in GETCO is another trading firm that's  
13 inwardly focused on profits. They set out from the  
14 beginning to build a 100-year business that they  
15 knew that in order to do that, we had to offer a  
16 service to the market that was well received. That  
17 service had to be competitive and priced well so  
18 that customers would want to continue to use it.

19           This has focused GETCO on what we believe  
20 is best for the market, and we believe that as long  
21 as we align our business with what's best for the  
22 markets, we will continue to be successful. These  
23 beliefs drive the firm as we look toward the -- to  
24 adapt to the constant change that occurs in our  
25 markets.

1                   For most of our last 10 years, we've spent  
2 our energy focused on development and improvement of  
3 our automated trading -- our automated market making  
4 capabilities. The core of the service that we offer  
5 to the markets is a continuous two-sided market at  
6 good prices. Providing a service to more than 50  
7 markets around the world has taken a constant focus  
8 on both the technology that we use to make the  
9 markets and the operational excellence required to  
10 successfully manage the many forms of risk  
11 associated with large-scale participation in the  
12 markets.

13                   Our technology has changed, along with the  
14 level of efficiency in the market. The changes have  
15 come across the whole spectrum of our trading  
16 process from risk management evaluation to order  
17 management. And the biggest and most visible aspect  
18 of our innovations and those in many of the other  
19 participants, have come in the area of speed.  
20 Speed, as we generally view it, is an important part  
21 of being able to provide the tightest, best quotes  
22 in the market. The faster we're able to react, the  
23 tighter and larger we can quote. The slower we can  
24 react, the wider or smaller we can quote.

25                   Our goal has always been to tighten

1 spreads and so it's imperative that we are among the  
2 fastest participants. The reason that speed matters  
3 so much to market makers like us is that we're  
4 providing firm quotations to the market for a large  
5 number of products. The transition from the floor  
6 model to the electronic world has been accompanied  
7 with a transition to firm quotes that come with the  
8 obligation to trade. That means that a market maker  
9 who is showing a competitive two-sided marketing,  
10 every Euro/dollar expiration is taking substantially  
11 more risk today than they did in a pit model. That  
12 risk is mitigated if the market maker can adjust or  
13 change its quotes very fast in response to changes  
14 in the market.

15 Failure to react fast enough means the  
16 market maker's quotes will be acted on by other  
17 participants, most likely to the detriment of the  
18 market maker. Ten years ago, acceptable reaction  
19 times for market making systems were measured in  
20 seconds or hundreds of milliseconds. Today they are  
21 measured in single digit microseconds, single digit  
22 milliseconds, and sometimes even microseconds.

23 Another area where we have invested a lot  
24 of time and energy is in operational excellence.  
25 For us this means that we take very seriously our



1 responsibility to participate in the markets on a  
2 continuous basis. We focus on building the  
3 protections and safeguards into our systems that  
4 allow them to trade -- allow them to provide markets  
5 in some of the most extreme conditions, like those  
6 experienced on May 6th.

7           The protections and safeguards in our  
8 systems are an ever evolving set of checks and  
9 monitors both pre- and post-order entry. These  
10 checks protect the markets by limiting what our  
11 traders can do in areas like the frequency that  
12 orders can be entered or modified, the size of the  
13 orders, the prices that can be traded, and we work  
14 diligently to improve our protections in the system  
15 every day.

16           We believe that most automated market  
17 makers hold -- build similar checks into their  
18 systems with similar goals and similar results.

19           In recent years there has also been a  
20 significant increase in the risk management and  
21 monitoring capabilities produced by the exchanges,  
22 as we've heard from both ICE and CME today. These  
23 protections augment our internal protections and the  
24 protections that other participants build into their  
25 systems.

1                   This combination of protections very much  
2 decreases the likelihood of one of these events  
3 occurring. The better the combination of our checks  
4 and monitors with the exchanges, the more confidence  
5 I have in our ability to provide competitive  
6 markets.

7                   On May 6th, we were one of the few market  
8 makers who actively provided liquidity during a  
9 period of highest uncertainty. We believe that we  
10 were able to do this in part because of our trust  
11 that our systems and everything around them worked  
12 properly in the face of highly uncertain conditions.  
13 And we believe that that trust comes from our  
14 experience and our focus on these risk management  
15 and operational concerns.

16                   While the markets have changed  
17 significantly over the past few years, a few things  
18 haven't. We believe that the fundamental traders,  
19 like investors and hedgers, continue to provide the  
20 core price direction in the markets. Intermediaries  
21 continue to provide the service as necessary for the  
22 market to find equilibrium. What's changed for  
23 these participants is the technologies and practices  
24 that are necessary for them to be successful.

25                   We believe that the percentage of the

1 market that's done using automated or algorithmic  
2 trading is increasing and in our estimation this  
3 will continue as end users gain more trust in the  
4 new breed of technology enabled intermediaries. As  
5 users adopt those -- these technologies in their  
6 trading, end users will look more and more like  
7 their currently automated counterparts. They will  
8 also present similar operational risks to the  
9 market.

10 Another key aspect of the market that is  
11 unchanged is the uncertainty around future prices of  
12 products. This seems like a trial point, but I  
13 state it because intermediaries can be criticized  
14 for not accumulating large positions in the face of  
15 real and balances of demand, like those seen on May  
16 6th. An event like this -- in events like this,  
17 intermediaries absorb the risk that they are  
18 prepared to manage. When that limit is exceeded,  
19 the intermediaries -- or experience something  
20 outside of norm -- their normal expectations, and  
21 when this occurs, they need to assume that the  
22 market knows more than they do.

23 We do not believe that the risks that  
24 intermediaries are willing to take is fundamentally  
25 any different now than it was in the days of pit

1 trading. Intermediaries have long had the  
2 responsibility to understand the ebbs and flows of  
3 their markets and to be in tune with their natural  
4 rhythms. We believe that technology has allowed  
5 intermediaries to automate this feeling and to be  
6 more precise in managing it, but that there are  
7 capital and risk management responsibilities that  
8 limit the maximum positions of any intermediaries at  
9 any given moment.

10           So much has changed in the last 10 years,  
11 it's hard to list it all, but there are two items I  
12 feel are worth highlighting. Both of these topics  
13 represent aspects of the overall improved efficiency  
14 of today's market relative to 10 years ago. Costs  
15 for individual transactions have come down. This  
16 means that it costs a lot less for investors and  
17 hedgers to execute the fundamental business of the  
18 markets. That's a good thing.

19           And these costs include explicit costs  
20 like clearing cost and exchange fees, as well as  
21 implicit costs like slippage or spread widths. In  
22 some markets that we participate in, the cost of an  
23 estimate, to be down approximately 60 percent over  
24 the last 10 years. We received feedback from  
25 participants like Vanguard that these savings are

1 being passed directly on to investors in the form of  
2 higher returns and lower fees.

3           While transaction costs are down on  
4 average, operating costs for liquidity providers has  
5 increased dramatically over the last 10 years. The  
6 investments and technology that are necessary to be  
7 successful -- a successful liquidity provider in  
8 today's markets require a much higher level of  
9 expense on both the technology itself and the talent  
10 necessary to bring it to life.

11           These investments by automated  
12 participants continue to rise as the bar for  
13 competing at the highest levels continues to raise.  
14 While these costs are high, they are not exclusive.  
15 As the CME pointed out earlier, the fair access  
16 rules of the exchanges level the playing field for  
17 all participants and allow new entrants to enter the  
18 market freely. The markets remain highly  
19 competitive because new entrants are taking  
20 advantage of this and are able to raise the capital  
21 and investment in these capabilities. There are  
22 few, if any, barriers to entry in the modern markets  
23 in our opinion.

24           Another major improvement in the markets  
25 over the last 10 years has been the tremendous

1 change in transparency. The area where we are most  
2 excited about is the ability of regulators and  
3 academics to do the in-depth analysis on the  
4 behavior of the markets like the ones we've seen  
5 today and the ones we've read about on May 6th.

6 This ability did not -- sorry. This  
7 ability did not exist 10 years ago, and while there  
8 is certainly more data to sift through today, the  
9 availability of the data for analysis opens up a  
10 tremendous capability for our regulators to ensure  
11 the fair and orderly behavior of the market.

12 My view as a participant in the markets is  
13 that there have always been people who abuse the  
14 system. They were there when the markets were  
15 primarily in the pits, and they're there in our  
16 electronic markets of today. But I believe that  
17 many of the behaviors that have been attributed to  
18 high frequency trading have always been  
19 characteristic of intermediaries in the markets.  
20 What's changed is our ability of regulators to  
21 leverage the unprecedented access to market  
22 information and that that provides me with the  
23 confidence that they can monitor and catch  
24 undesirable behaviors in a way that was not possible  
25 years ago.

1 Overall, there's been a tremendous change  
2 in the market over the last 10 years, and we believe  
3 that the changes have made the markets significantly  
4 more efficient. These efficiencies have come with  
5 changes in technologies necessary to be an  
6 intermediary exchange or regulator, but changes will  
7 continue in the future as more parts of the market  
8 become automated.

9 That automation will continue to affect  
10 the behaviors of all participants. In the equities  
11 markets, we have seen customer orders become  
12 increasingly executed by smart algorithms, and doing  
13 this has allowed customers to execute their orders  
14 in even lower overall net costs.

15 We also believe that the fundamental  
16 stability of the markets is a concern that everyone  
17 must take seriously. Events like May 6th undermine  
18 the confidence of people in the markets themselves,  
19 and we believe that regulators, exchanges and market  
20 participants have all worked steadily to improve the  
21 reliability of the markets and the protections built  
22 within it, but there is much additional work ahead  
23 of us.

24 An open dialogue and discussion like the  
25 one we planned for the subcommittee, is the best

1 tool for bringing awareness to potential problems  
2 and stopping them before they occur. I believe the  
3 subcommittee is going to produce very positive  
4 change in the safety and stability of the markets.

5 I want to thank you for the opportunity to  
6 present these views and to participate in this  
7 subcommittee.

8 COMMISSIONER O'MALIA: Sean, I don't know  
9 if you're aware, FI Principal Traders Group, which I  
10 understand GETCO's a member of, put out in November  
11 2010, recommendations for risk controls for trading  
12 firms, kind of a baseline for best practices. I  
13 guess in March of 2010, about a week ago, FI  
14 European Principal Traders Association put out  
15 software development change management.

16 Now this is only a month old. This is a  
17 year and a half old, or something. What is the  
18 status of deployment of PTG members abiding by the  
19 standards listed in here; are you aware?

20 MR. CASTETTE: I am not aware of the  
21 status of the deployment of those risk protections  
22 across all the members of the PTG.

23 COMMISSIONER O'MALIA: I would assume that  
24 if you signed up for it, you're doing all of these  
25 things.



1 MR. CASTETTE: We have put considerable  
2 effort over the last 11 years in implementing those  
3 and other measures into our systems.

4 COMMISSIONER O'MALIA: Yeah. A lot of the  
5 things that were raised by the exchange, change  
6 management and testing, conformance testing, error  
7 controls, pre-trade risk management price collars,  
8 volatility, fat finger, et cetera. The interesting  
9 thing about this -- the European version, or  
10 European software development, it talks about  
11 maintaining source codes, source code review and  
12 audit-ability, and all of this will be maintained,  
13 who is -- I assume it means maintained at the firm.  
14 Would that be available to the Commission, for  
15 example?

16 MR. CASTETTE: I'm not -- I don't think  
17 I'm qualified to comment on whether or not it would  
18 be available immediately. I do know that we have  
19 had our codes subpoenaed by the SEC and we have  
20 provided and worked with them to make sure that they  
21 understand the particular parts of anything that  
22 they've asked for.

23 I assume there are some firms that are  
24 both members of the U.S. If anybody wants to  
25 comment on this. This is an interesting piece and

1 I'm just kind of wondering what -- what's intended  
2 by it. Anybody?

3 MR. GORELICK: My firm participated in the  
4 drafting of both of those with a lot of other firms.  
5 I know GETCO had representatives on both as well. I  
6 think they're just good demonstrations of the fact  
7 that the industry participants have been thinking  
8 about these issues for a long time. It's not like  
9 we woke up in 2008 and started trading with  
10 computers and you never thought about risk or  
11 software controls or any of the types of risks that  
12 we deal with daily.

13 As Sean mentioned, this has been sort of  
14 an important skill for our business since they were  
15 founded. The purpose of these efforts is to really  
16 benefit not only from the learning that's come from  
17 individual firms within the walls of those firms,  
18 but to broaden out and talk as an industry and make  
19 sure that we're thinking about the types of risks  
20 that not only have we experienced personally or  
21 thought of personally, but that our peers and  
22 competitors have as well.

23 COMMISSIONER O'MALIA: Maybe we could get  
24 an update as to where firms are in applying these  
25 things and maybe that's the FIA needs to provide

1 some sort of update on that. I know this is a new  
2 document, but it raises a number of questions about  
3 --

4 MR. CASTETTE: Even though they're new  
5 documents, by the time most of these practices --  
6 these are best practices that are documented by the  
7 FIA. Most of those practices have been in place at  
8 firms like ours or Richard's for a number of years.  
9 What we're doing is codifying them so that other  
10 participants can learn from the practices that we've  
11 developed.

12 And many of them are taken from other  
13 industries as well. The software development  
14 practices of code control and things like that, and  
15 testing, are commonplace.

16 COMMISSIONER O'MALIA: I think everyone  
17 heard the chairman. He kind of laid out that we're  
18 also looking at new initiatives, and if you're  
19 already doing these things, maybe you can help us  
20 understand what -- if there's any gaps or we're  
21 missing anything, et cetera, that you aren't already  
22 doing or the exchanges aren't already doing. I  
23 mean, that's what kind of this meeting was about, is  
24 to establish that baseline for where we are today.

25 Anyone else have a question?

1 MR. VICE: Scott?

2 COMMISSIONER O'MALIA: Yes.

3 MR. VICE: In that regard, ICE, about a  
4 month or two ago, sent a survey out to our -- a  
5 group of high frequency traders, defined with direct  
6 market access, automated trading, asking them if  
7 they've adopted those by best practices, and point  
8 by point. At this point, it's just a survey. I  
9 think it's certainly sent out with an expectation  
10 that they do, and we've asked them where they don't,  
11 to just explain why they don't.

12 We'll be happy to share the high-level  
13 survey results, not individual results obviously,  
14 but high-level results of that when we finish that  
15 activity.

16 COMMISSIONER O'MALIA: Great. That's very  
17 helpful. Thank you.

18 Any other thoughts, questions? Yeah, Dr.  
19 Gorham.

20 MR. GORHAM: You probably know also that  
21 the Chicago Federal Reserve Bank has been doing over  
22 the last year or so a survey of firms and exchanges,  
23 firms and vendors, and they've come out with two  
24 reports so far that I know of, one on exchanges, one  
25 on vendors. I don't know if the one on firms has

1 come out, but you might be able to -- you can get  
2 their raw data. That might be useful to the  
3 Commission.

4 COMMISSIONER O'MALIA: I wasn't aware of  
5 that. Thank you. In my packet of kind of research  
6 material, I also had this interesting, provocative  
7 study that came out last week, I think, David  
8 Bicchetti and Nicolas Maystre, synchronized and  
9 long-lasting structural change on commodity markets  
10 and evidence from high frequency trading.

11 This is a provocative study, to say the  
12 least, about the role HFT has had in commodity  
13 markets. And if you think you had a problem with  
14 any of the slides that Mr. Hasbrouck put up there,  
15 you should read this study.

16 But we will leave that for another day.  
17 We are over our time. And I do want to thank the  
18 panelists here, thank the HFT. We're going to  
19 excuse everybody but the HFT Subcommittee because we  
20 want to have a brief organizational meeting. So I  
21 appreciate everybody's participation. If the  
22 subcommittee would stay around, I'd appreciate it.

23 Thank you very much to our panelists.  
24 We'll be back at 2:00.

25 (Whereupon, at 1:02 p.m., a luncheon

1 recess was taken.)

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A F T E R N O O N S E S S I O N

(2:18 p.m.)

COMMISSIONER O'MALIA: Before we begin, we have our legal disclaimer that we have to deal with. In order to -- Nancy will explain the process for receiving the documents and the recommendations. Nancy Doyle is our assistant general counsel.

MS. DOYLE: Good afternoon. This is pretty much for the record and I apologize for those that worked on the Data Standardization Subcommittee, because it may be repetitive of what you already know.

As we explained at the outset of the Data Standardization Subcommittee process, the charter -- this is a federal advisory group, charter for it -- provides that it renders advice, proposals and recommendations to the full Technology Advisory Committee. We have met with representatives of the TAC to vet and process these proposals. Done a great job. And they're here today to present the Data Standardization's Subcommittee's four working group proposals to the full TAC. It's presented to you today.

And let me explain what the TAC's role on this is just in terms of FACA, advisory committees

1 and charters. The FACA -- this is being passed  
2 through the main committee up to the Commission.  
3 The FACA receives these and recommends that they be  
4 submitted to the Commission for its deliberations.  
5 When you receive these, and generally recommend, you  
6 are not having to formally vote. You won't have to  
7 formally vote, although we have a quorum here today.

8           What you will be doing by a voice approval  
9 when Commissioner O'Malia calls you to the end --  
10 you may want to know this -- is agreeing that these  
11 are worthy of being relayed to the Commission for  
12 its consideration. So please do not feel -- and I'm  
13 stating this publicly with a court reporter here --  
14 that you are signing on to every footnote in every  
15 one of these working group reports you've been  
16 viewing for the last three months. You'll be happy  
17 to know that.

18           So just like a good lawyer, just to repeat  
19 again, here's the written words. The purposes of  
20 today, for these materials, which have already been  
21 previewed to this committee in its previous  
22 meetings, is to be formally received by the full TAC  
23 for recommending for delivery to the Commission with  
24 your general endorsement.

25           TAC subcommittee members are free to



1 discuss, comment on or disseminate the  
2 recommendations as they see fit, but of course,  
3 neither the Subcommittee on Data Standardization or  
4 the TAC should say that the Commission now at this  
5 stage endorses the recommendations.

6           The Commission itself isn't taking action  
7 today, of course. What actions, proposals,  
8 endorsements or deliberations the Commission  
9 undertakes with respect to any or all of these four  
10 working group reports will be at the Commission's  
11 future election and discretion.

12           So if anyone has any questions on this,  
13 I'll be available to help you, but it's important to  
14 just clarify what it is and what it isn't, and I  
15 thought it would be of some comfort to the TAC  
16 members in particular to know about.

17           COMMISSIONER O'MALIA: Thank you, Nancy.  
18 We're going to proceed right away to Doug Harris,  
19 full TAC Committee member, to present the  
20 recommendations on working groups two and four.  
21 Doug.

22           MR. HARRIS: Thank you, Commissioner  
23 O'Malia, and good afternoon. I'm pleased that you  
24 asked me to vet the recommendations of the  
25 subcommittee two and four. I realize that this is

1 an important step in --

2 COMMISSIONER O'MALIA: Doug, can you pull  
3 that microphone closer?

4 MR. HARRIS: -- an important step in  
5 bringing additional clarity to the obligations of  
6 swap entities, DCOs, DCMs, SDRs under Title VII of  
7 Dodd-Frank Act and the Commission's expectations  
8 with respect to the reporting, maintenance and  
9 retrieval of swap data.

10 I'd like to take just a moment to thank my  
11 boss, Gene Ludwig, for making the firm -- CEO of  
12 Promontory Financial Group, for making the firm's  
13 resources available to me and to engage in this  
14 vetting. And I want to particularly thank Evelyn  
15 Fuhrer, who's sitting here with me. She's the head  
16 of Promontory's Financial Services Technology Group,  
17 and I relied upon her quite a bit in doing this  
18 vetting.

19 I also want to say that Promontory doesn't  
20 have any particular proprietary interest in any of  
21 these working group recommendations, nor did we  
22 approach the review of these recommendations from  
23 any one client's perspective. Our clients have  
24 included the CFTC, existing DCOs, DCMs and other  
25 entities or registered swap dealers. So our concern

1 here was on the integrity of the reporting process  
2 and the accuracy of the reporting process.

3 In conducting the vetting, we determined  
4 that there were five considerations that we should  
5 assess each of these recommendations against,  
6 consistency with Dodd-Frank Act, the statutory  
7 provisions and rule-makings, cost and ease of  
8 implementation, time to market, consistency with  
9 current industry initiatives, and action-ability.

10 First the recommendations of working group  
11 two. The first recommendation is adopt the generic  
12 product representation for reporting of complex and  
13 BISPO (ph) products to equip regulators with an  
14 appropriate level of information while preserving  
15 the ability of the marketplace to innovate.

16 We support this recommendation, but we're  
17 aware that the generic product representation would  
18 not fully comply with the existing CFTC reporting  
19 rules under Part 43 and Part 45. So currently there  
20 is a process for 180 -- 180-day exemption from the  
21 reporting requirement for complex and BISPO  
22 products. We think that this exemption is going to  
23 need to be extended over time. In fact, what we  
24 think is that there will need to be a long-term  
25 exemption for complex and BISPO products. As new

1 products are developed and evolve, it will always be  
2 the case that the generic product representation  
3 will not fully capture all of the primary economic  
4 turns.

5           So we would suggest that the TAC suggest  
6 to the CFTC that they consider a long-term exemption  
7 for BISPO and complex products and possibly consider  
8 a process whereby over time, as new products are  
9 developed, that the CFT -- the CFTC assess whether  
10 certain complex and BISPO products are now  
11 adequately captured by the generic product  
12 representation and no longer need an exemption.

13           Recommendation two, leverage the ISDA  
14 standard credit support annex initiative to create a  
15 highly standardized data representation of the ISDA  
16 SCSA and explore possibility and options for  
17 electronic execution. Again, we support this  
18 recommendation and we think that the TAC should  
19 recommend to the -- that the CFTC continue outside  
20 of the formal rule-making process to encourage the  
21 develop of the SCSA, and thereafter a  
22 machine-readable representation of the SCSA.

23           And we note that this effort would be  
24 consistent with current industry initiatives of ISDA  
25 to create the SCSA and at -- FpML has also put

1 together a working group to develop an electronic  
2 representation of the SCSA. So that was one of the  
3 factors strongly in favor of our support of this  
4 recommendation.

5 Recommendation three, regarding legacy  
6 portfolio legal agreements finalized and industry  
7 wide survey to identify legal agreement information  
8 relevant to systemic risk. The survey will confirm  
9 scope, feasibility and collate information relevant  
10 to a cost benefit analysis.

11 On this recommendation, we actually  
12 suggest that the CFT -- that the TAC suggest to the  
13 CFTC that it delay taking action on this  
14 recommendation, though we think that gathering this  
15 information from legacy portfolio document agreement  
16 is going to be very important for the CFTC in order  
17 to better assess systemic risk in the swap market.

18 We also think that -- that the obligations  
19 imposed by Title VII have already put a strain on  
20 the resources of many firms and especially the  
21 technology resources. And we would recommend that  
22 the CFTC consider delaying the survey until after  
23 industry participants have completed some of their  
24 initial compliance efforts under Title VII.

25 We're going to switch now. You're going

1 to have to switch documents to the recommendations  
2 of working number four. The first recommendation,  
3 1a, concerns data format. The recommendation is the  
4 first step to standardized trade reporting across  
5 market sectors should be develop -- to develop a set  
6 of common XML elements and then work towards  
7 establishing a unified set of XML tags over time.

8 Further, setting up a process to manage  
9 and evolve standards over time using the expertise  
10 of industry groups is the best way to achieve  
11 success in standardization projects. We agree with  
12 the direction of this recommendation, but if in fact  
13 the recommendation is intended to mean that the CFTC  
14 should undertake that effort, we don't think that  
15 that is the best use of CFTC resources. We think  
16 that the TAC should recommend to the CFTC that the  
17 CFTC provide guidance on the initiative and support  
18 to the industry in further developing the common XML  
19 elements and a unified set of XML tags.

20 Recommendation 1b, data format. The CFTC  
21 should not dictate the input format to the SDR as  
22 long as the SDR can produce output to the CFTC in a  
23 format that the CFTC finds acceptable. We agree  
24 with this recommendation and in fact, we don't think  
25 any further action really needs to be taken here

1 because the CFTC has already effectively implemented  
2 this recommendation in 17 C.F.R. Part 45 by not  
3 dictating the input format to the SDR. However, we  
4 also believe that implicit in this recommendation is  
5 an obligation on the part of the CFTC to define  
6 acceptable data transmission output formats for  
7 recording to the CFTC and disseminating these  
8 requirements in a timely manner to SDRs so that they  
9 have sufficient time to comply.

10 Recommendation 2a deals with storage. The  
11 recommendation is it is likely that there will need  
12 to be a way to reformat or transfer old records into  
13 newer media from time to time. SDRs will need  
14 procedures to do this in a way that still maintains  
15 the integrity of the original data by maintaining  
16 the readability over time. In this area it would be  
17 helpful to have further guidance to clarify first,  
18 to clarify best practices for developing and  
19 implementing such procedures.

20 We note that this is absolutely consistent  
21 with the existing regulatory requirements. Part 49  
22 requires SDRs to establish sufficient procedures and  
23 policies and procedures to prevent a valid swap from  
24 being invalidated. We agree with this  
25 recommendation and we think it would be extremely

1 helpful for the CFTC to provide guidance on  
2 sufficient policies and procedures. And further, we  
3 have some ideas as to what those policies and  
4 procedures should be, and they would include robust  
5 change management policy -- policies and procedures  
6 that address periodically updating storage media,  
7 databases and associated application systems.

8 We think the TAC should also suggest to  
9 the CFTC that the CFTC consider providing SDRs with  
10 further guidance on establishing a control framework  
11 that is reasonably designed to ensure that the data  
12 continues to be credible and useful over time.

13 Recommendation 2b also deals with storage.  
14 The long duration of some swaps may require that  
15 original data be maintained in its native format for  
16 extended periods. The term "data file format"  
17 appears to need further definition, as it is unclear  
18 whether this means the format created by a sender of  
19 data, the format that might exist in transmission,  
20 or the format that a receiver of data uses to state  
21 the data.

22 The working group believes that for a  
23 cleared swap trade, the native format of the  
24 transaction record is that used and maintained by  
25 the DCO for a privately-negotiated trade reported to



1 the SDR. The native format would be that used and  
2 maintained by the SDR.

3 This one we actually have some issues  
4 with. We think that possibly the focus on the  
5 native format may be too restrictive, and what's  
6 actually more important is the integrity and  
7 credibility and accuracy of the data over time. So  
8 we think the TAC should recommend that the CFTC  
9 consider providing guidance on developing  
10 appropriate controls and audit trails to ensure that  
11 stored data remains credible.

12 Now the one issue we -- that possibly goes  
13 against our conclusion, is the fact that native  
14 data, native file format may be necessary in certain  
15 enforcement proceedings. We haven't made that  
16 determination and so I think what would be  
17 appropriate, is to first have some kind of legal  
18 opinion or analysis as to whether the data native  
19 file format will be required for the CFTC to pursue  
20 enforcement actions. But aside from that issue, we  
21 think the real issue is the ongoing credibility and  
22 integrity of the data.

23 Recommendation 3 deals with versions.  
24 Rather than allow every minor change to a product  
25 definition to result in a new and distinct product

1 ID, keep product IDs stable by associating a version  
2 with product IDs. It would be important to match  
3 the product ID and the version, particularly when  
4 contract lifetimes are long compared to the duration  
5 of a given version.

6 We agree with this recommendation  
7 primarily because it is consistent with current  
8 industry initiatives. Currently identifiers are  
9 used. Versions are used for CDS and we know that to  
10 use to a UPI initiative will involve versioning of  
11 the UPI and product taxonomy for all asset classes.

12 Recommendation 4a. In order to make it  
13 efficient for interested parties to retrieve data,  
14 every SDR should provide the same standardized API.  
15 Access to different parts of the data would be  
16 configurable so that all parties could use the same  
17 API. We also agree with this recommendation and we  
18 think that it would assist the industry and the SDRs  
19 to comply with the reporting requirements and  
20 facilitate retrieval and analysis of data.

21 Recommendation 4b also deals with storage.  
22 Swap participants should be given the ability to  
23 view all data reported to SDRs on swaps that they  
24 are party to over the life of such transactions.  
25 The reporting entity will need to be able to

1 directly amend data, although this ability should be  
2 limited to reported data only.

3           The counter-parties should have the  
4 ability to report errors in data so that they may be  
5 corrected by the original reporting party, or  
6 subject to some form of dispute resolution. We  
7 agree with this recommendation, but we don't believe  
8 that the CFTC should necessarily prescribe the  
9 process by which SDRs accomplish these tasks.  
10 Different SDRs may have different methods for  
11 correcting data and providing access to data, and we  
12 questioned -- we questioned whether a reporting  
13 entity needs to be able to actually directly amend  
14 the data.

15           That would imply that the reporting entity  
16 actually has -- can go into the system and report  
17 the data. That presents, in our minds, certain  
18 security issues. And so therefore, we think that  
19 it's probably best that the TAC recommend to the  
20 CFTC that the CFTC allow SDRs to follow through on  
21 this recommendation and to allow access -- to allow  
22 data to be corrected in the form that it sees fit.

23           Recommendation 4c, access, the CFTC should  
24 establish more detailed requirements for the  
25 analysis of data by SDRs on a regular basis, as well

1 as for ad hoc requests by the CFTC, until the CFTC  
2 establishes more detailed requirements, including  
3 the expected types and urgency of requests. It is  
4 unknown what future functionality SDRs will need to  
5 support, which has important implications from a  
6 software perspective.

7           This information will also help SDRs  
8 determine the need -- the needed computing  
9 horsepower for their middle offices. We note that  
10 SDRs are expected to routinely monitor data for the  
11 purposes of any ongoing swap surveillance and  
12 objectives of the CFTC, as well as for ad hoc  
13 requests.

14           We support this recommendation because we  
15 once again believe that the more lead time and  
16 direction that the SDRs have as to what the future  
17 surveillance objectives of the CFTC will be, the  
18 better equipped they will be to respond to requests.  
19 And we note that there is going to always be a cost  
20 associated with complying with these requests. So  
21 the earlier that the CFTC provides us guidance to  
22 the SDRs, the more efficiently they can carry out  
23 their responsibilities to respond.

24           Finally, recommendation 5 goes to timing.  
25 The initial data loaded into SDRs should be OTC swap

1 data, as the primary goal of the relevant portion of  
2 the Dodd-Frank Act is to bring transparency to this  
3 sector of the market. With this in mind, the  
4 subcommittee recommends the following sequence for  
5 required reporting into SDRs.

6 Phase 1, ensure SDR requirements are  
7 international and applied consistently. Phase 2,  
8 begin reporting of non-cleared trades. Phase 3,  
9 begin dissemination of public data on a real time  
10 basis. Phase 4, require the reporting of cleared  
11 trades into SDRs. Phase 5, provide query  
12 functionality to regulators. And Phase 6, provide  
13 more complex portfolio analytics to the regulators.

14 It's pretty clear that the working group  
15 in this case phased in these various requirements  
16 based on information that they thought was going to  
17 be most important to the CFTC's surveillance and  
18 monitoring activities. We would approach it  
19 slightly differently. We would suggest that the TAC  
20 recommend to the CFTC the CFTC go after the  
21 low-hanging fruit first, and that would be reporting  
22 cleared trades and non-cleared trades, then  
23 disseminating public data, then providing query  
24 functionality, and then providing more complex  
25 portfolio analytics.

1                   What we disagree with is that Phase 1,  
2                   which would seem to have to occur before these other  
3                   phases occur, is the proper first thing to try to  
4                   tackle. We think international consistency is going  
5                   to be hard to achieve, and in our view, it should be  
6                   an ongoing process doing these other phases rather  
7                   than the first phase that has to be accomplished  
8                   before these other requirement -- reporting  
9                   requirements are put into place.

10                   As we see at the end, we think the  
11                   reporting of cleared trades can be achieved fairly  
12                   easily and it would be considered to be a big win  
13                   for the Commission.

14                   And that's it.

15                   COMMISSIONER O'MALIA: Thank you very  
16                   much. It goes without saying, but I will say, I  
17                   can't thank both Doug and R.J. and their respective  
18                   teams for all the hard work they did to take all the  
19                   work of the data group, and I greatly appreciate the  
20                   data group's work to assemble all this and to make  
21                   your recommendations on a very short time.

22                   I know our staff appreciates your  
23                   assistance. I do. And I know I speak for the  
24                   Commission on that. So thank you very much --

25                   MR. HARRIS: You're welcome.

1                   COMMISSIONER O'MALIA:  -- for all the work  
2 you did to distill this and give thoughtful  
3 reflection on the rules -- or on the reports.  R.J.,  
4 you ready?

5                   MR. CUMMINGS:  Yeah.

6                   COMMISSIONER O'MALIA:  Fire away.

7                   MR. CUMMINGS:  Okay, I'm going to move  
8 through mine pretty quickly.  We had to do  
9 recommendations on the group one and group three,  
10 product and entity identification, specifically UPI  
11 and LEI, and then group three was the use of  
12 semantic descriptions for financial instruments.

13                   We went through the TAC's recommendations  
14 that were provided in December.  And what we have is  
15 that we recommend the use of an asset class accepted  
16 product taxonomy for Part 43 reporting, real time  
17 reporting, and move the fields listed in the Part  
18 43's table A1.  We feel that those -- that table's a  
19 little bit restrictive.

20                   As the use of UPI for Part 43 is optional,  
21 ISDA has taken on the sort of optional  
22 responsibility to complete taxonomy definitions for  
23 all asset classes that would ensure that required  
24 fields are covered for reporting purposes.  We also  
25 recommend that UPIs will only be provided for Part

1 45 reporting where appropriate, and to continue to  
2 work with the CFTC in order to get detailed guidance  
3 for granularity of UPIs. This specifically relates  
4 to standardized products versus exotic or bespoke  
5 products on each of the asset classes.

6 This will further categorize products for  
7 systemic risk management until such time that the  
8 taxonomy provides sufficient minimum classification.  
9 The existing rules of operations documents are  
10 available. The government changed process for OTC  
11 taxonomies at ISDA. It's a working framework right  
12 now. And at this point, for a July 16th  
13 implementation date for credit and interest rates,  
14 the industry should adopt the ISDA proposed taxonomy  
15 to allow for timely implementation.

16 We also recognize that the taxonomy  
17 approach that ISDA has put forward can change over  
18 time. UPIs have a unique appeal for product  
19 classification, but the difference in definition and  
20 use of a common UPI in Parts 43 and 45 to some  
21 degree limits the value that UPI would represent for  
22 SDR reporting.

23 An absence of clear guidance on UPI  
24 granularity should allow the industry infrastructure  
25 providers to leverage proxy UPIs until such time as



1 the CFTC can prescribe a more universal approach to  
2 product classification.

3 So the taxonomy approach serves to  
4 categorize OTC asset classes in a meaningful way in  
5 the immediate term. We believe the CFTC should  
6 continue a dialogue with other regulators to ensure  
7 consistent application of the OTC taxonomy  
8 recommendations.

9 The governments of the steering groups or  
10 authors of taxonomy and UPI categorization materials  
11 need additional analysis. Primarily, industry  
12 groups have not formally recognized, and I stress  
13 formally, DCO, DCM, SDR and SEF participation in  
14 current classification activities.

15 As these entities will have to adopt and  
16 support data transmission activities to one another,  
17 a mechanism for dispute resolution will be required.  
18 Current steering committee guidelines have not  
19 previously had to formally acknowledge -- I stress  
20 formally again -- confidentiality -- confidentiality  
21 or non-disclosure practices with a wide range of  
22 commercially competitive entities now tasked with  
23 participating in a product classification process.  
24 New product innovations and timing considerations  
25 will have a larger role to play.

1                   LEI, we recommend the support for Part 45  
2 LEI initiative being coordinated by FSB that  
3 leverages the ISO 17442 LE standard for CFTC  
4 reporting. SWIFT, DTCC and ANNA are developing an  
5 industry solution to address the roles of the  
6 registration authority, facilities manager and  
7 third-party provisioning capabilities for LEIs.  
8 That process is well underway today.

9                   We recommend the immediate notification  
10 and distribution of existing LEI records industry  
11 wide where available. We understand that there are  
12 roughly 50,000 cleansed LEIs and there are probably  
13 about 9,000 that are ready to go today.

14                   We recommend the use of proxy LEIs until  
15 such time as the industry can fully adopt and  
16 support ISO 17442 for designated swap dealers where  
17 LEIs don't yet exist. We recommend an appropriate  
18 industry integration and testing period in advance  
19 of required reporting compliance data.

20                   Integration and testing should allow for a  
21 beta phase of no less than nine months, in our  
22 opinion, and a live implementation period with a  
23 definitive compliance date. LEIs are consistent  
24 with and highly correlated to several other  
25 Dodd-Frank initiatives, including LSOC and position

1 limits. In some cases, the stated compliance dates  
2 of related Dodd-Frank reporting requirements could  
3 preempt adoption of standardized LEIs in favor of  
4 proxy LEIs in order to meet parallel reporting  
5 objectives. So we have a little bit of a race  
6 condition here.

7 The actual implementation cost associated  
8 with the initial development and distribution of the  
9 industry solution for LEIs does remain unclear, and  
10 it's not entirely clear if there is uniform  
11 international support or agreement for the CFTC's  
12 LEI approach, as foreign sovereign regulator --  
13 regulatory mandates similar in nature to Dodd-Frank  
14 are either in draft form, still under discussion or  
15 have yet to begin in earnest. The CFTC should  
16 continue to actively push for an international  
17 solution while endorsing a proxy LEI approach for  
18 markets under its jurisdiction to allow for  
19 sufficient integration and testing time.

20 Group three, semantic representation of  
21 financial instruments. We recommend the continued  
22 use of XML-based reporting schemas, FpML and FIXML  
23 in order to capitalize on the existing technology  
24 and framework investment of the industry for  
25 regulatory reporting. The standards available to

1 the industry infrastructure providers, clearing  
2 members and trading entities today are capable of  
3 addressing the needs of the industry and regulators  
4 with little, if any technical modification.

5 We recommend that any additional parallel  
6 analysis on the implementation impacts of  
7 ontological or semantic technology should be  
8 deferred until existing Dodd-Frank initiatives can  
9 mature and be reviewed for additional efficiencies  
10 and capabilities.

11 The proposed benefits and opportunities of  
12 semantic representation of data appear encouraging  
13 with regard to the enhanced classification and  
14 analysis of data. However, a proper cost benefit  
15 analysis should be done before further investing in  
16 this area. A good starting point could be a gap  
17 analysis of the reporting infrastructure once it's  
18 fully developed by the industry, in line with  
19 regulatory requirements. We believe that any  
20 attempt to force the use of semantic representation  
21 would only serve to complicate existing reporting  
22 requirements.

23 COMMISSIONER O'MALIA: Thank you very  
24 much. You want to say anything about it, Chuck, as  
25 a full TAC member?

1 MR. VICE: Other than I guess as a full  
2 TAC member I'll recommend R.J.'s -- the working  
3 group's recommendations on those two topics. And  
4 would also just like to add one point of concern for  
5 the CFTC to consider going forward on the proposed  
6 solution for -- recommended solution for LEI  
7 determination and the entities mentioned there to  
8 provide that.

9 We do support it. However, we do  
10 recognize that that's essentially going to be --  
11 this was not put out for an RFP, and so this is  
12 essentially a monopoly service and we just -- we  
13 want to make sure that the concerns are addressed in  
14 terms of how this is paid for and the costs are  
15 determined and fees are determined and so forth.

16 MS. BOULTWOOD: Can I just clarify that?

17 COMMISSIONER O'MALIA: Yeah.

18 MS. BOULTWOOD: I mean, it wasn't clear to  
19 me in reading the recommendations who's responsible,  
20 what are the roles and responsibilities in terms of  
21 the UPIs, the LEIs, you know, creation and  
22 assignments, I guess. And then also, didn't we also  
23 discuss transaction identifiers?

24 MR. VICE: I'll tell you my high-level  
25 understanding and R.J. can correct me where I get it

1 wrong. The LEIs, I believe it's SWIFT, DTCC and  
2 ANNA, there's three organizations there that have  
3 been more or less recognized globally. There is  
4 some global momentum behind that solution and I  
5 think it makes the most sense.

6 And so they will -- determining an LEI  
7 will be a fairly straight forward thing, a corporate  
8 entity or hedge fund or swaps dealer, whoever it may  
9 be that doesn't have one. I equate it to some  
10 extent to the old Dunn and Bradstreet codes that  
11 every company had. So I think it's a pretty  
12 straight forward thing. You just need to have a  
13 code so everybody knows that when they see that code  
14 that that's you.

15 The UPI, I think what they're recommending  
16 there is more of a process of determining a UPI code  
17 as opposed to the codes themselves, so that it has  
18 the flexibility as new products come along,  
19 variations of products are developed, anyone can use  
20 the taxonomy to derive the same product code as  
21 anyone else.

22 And then I believe the USI, I'm not sure  
23 that was a topic of one of the working groups.

24 MR. GORELICK: No, that wasn't. That  
25 wasn't a topic. Well said.

1 MS. BOULTWOOD: Transaction identifiers  
2 are something to be addressed in the future or --

3 MR. VICE: There -- in some of the  
4 rule-making, I mean, I think in terms of SEF  
5 establishes those. I think if the SEF traded -- I  
6 mean, there are some guidelines emerging. Maybe  
7 they're even in the rule-making; I can't recall.

8 COMMISSIONER O'MALIA: Well, a lot of this  
9 data is -- you know, hopefully we can adopt,  
10 consider it as part of our decision making going  
11 forward and how we're going to implement it and what  
12 the challenges are from a technology cost, et  
13 cetera.

14 Global coordination on the LEI is critical  
15 and I believe it's this week that meetings in Basel  
16 are occurring to kind of harmonize, make sure  
17 everybody's on the same page. There is some issues  
18 to Chuck's point regarding the governance that I  
19 think are still being considered, but by and large,  
20 the standardization of how they're going to be --  
21 you know, what's going to be implemented and how  
22 soon they can be implemented using this proxy  
23 proposal, is moving forward. But there are a couple  
24 of items still left open and we will have to use the  
25 proxy to move forward.

1           The four working group papers are on our  
2 website and both R.J. and Doug here have kind of  
3 provided their review through Chuck as well, to make  
4 recommendations or recommendations on those working  
5 groups to be kind of forwarded to the Commission for  
6 consideration.

7           So what I'll ask you to do here is to  
8 basically approve both of them, to make sure that  
9 the Commission's aware of both of them. Since this  
10 is an open meeting and a public record, we will  
11 allow for other comments to come in on both the  
12 papers and the recommendations themselves. So if  
13 you have any further thoughts, we're -- we'll  
14 include all of that and provide that as a  
15 recommendation to the Commission.

16           A lot of their -- the LEI's a good example  
17 of something that is very near term and immediate.  
18 And there are some other concepts that both -- some  
19 of the other working groups considered that are  
20 farther range and will be valuable to us in  
21 considering how we tackle these issues. Even there  
22 was in one working group no specific single  
23 consensus, so on the taxonomy, that's a challenge  
24 for all of us to figure out what the next steps are  
25 on that.



1                   But it really will provide us a good range  
2 of ideas and concepts that we need to think about,  
3 not only for immediate rules, but longer range  
4 rules, and how we're going to integrate further  
5 automating and creating a universal record for all  
6 of this trading, and to automate all of it.

7                   Because as we heard this morning, the  
8 volumes and the speed in which all of this occurs  
9 really dictates kind of a computer-aided strategy  
10 here. So I can't thank enough the working groups --  
11 I see them sprinkled about here -- who have  
12 participated, and I greatly appreciate your input  
13 and efforts on that. It was extremely valuable.

14                   These are very thorough recommendations  
15 and reports. They're on our website. I encourage  
16 you to take a look at them and download them, review  
17 them, et cetera. Provide comment. We're going to  
18 allow for that.

19                   But if you would, I will just ask if  
20 there's kind of a unanimous consent, or if there's  
21 any objection to forwarding all of this on to the  
22 Commission. Does anybody have any objection on the  
23 TAC from forwarding all of these documents and  
24 recommendations to the Commission? Well thank you  
25 very much and I thank the Data Standards Working

1 Group for their service to provide this information  
2 as well.

3 We are going -- anything else from a legal  
4 standpoint?

5 MS. DOYLE: No. Just to clarify what's  
6 happening, for the record. I think it's clear, but  
7 in case I misheard it, it's not just the four  
8 working group reports. Also the work product. Mr.  
9 R.J. Cummings and Mr. Douglass Harris and their  
10 organizations, which again, this is an educational  
11 process for staff too, this whole working group has  
12 been really grateful. It's great working with you.

13 That will also be forwarded on to the  
14 Commission for reading too. And I already said it,  
15 but I'll repeat it again. In agreeing to do this,  
16 you're not agreeing to any footnote in anything, of  
17 binding any of your organizations. The entire point  
18 of FACA is that people come from their own industry  
19 perspective and they share it with the government,  
20 and we consider it for further action, if any, we  
21 might take with respect to one or not.

22 COMMISSIONER O'MALIA: All right. We'll  
23 move to panel three. Thank you very much, R.J. and  
24 Doug, Chuck, thank you.

25 (Pause)

1                   COMMISSIONER O'MALIA: We're get --  
2                   somebody's getting your name tents. If you'll just  
3                   have a seat. We won't let that hold us up. This is  
4                   the third panel for the day. This is an idea. We  
5                   had a rule-making a couple weeks ago that talked  
6                   about documentation and how we're going to solve for  
7                   a trade breakage and issues going forward. We want  
8                   to make sure that through documentation that there  
9                   wouldn't be any anti-competitive behaviors.

10                   We imposed some rules on that, but what  
11                   fascinated me the most about this is what are we  
12                   for? What will the Commission be for? What is the  
13                   industry for in integrating the swaps market from a  
14                   transaction to clearing perspective, keeping in mind  
15                   that this is different than the futures markets? We  
16                   are going to have more SEFs. We had ICE and CME,  
17                   two prominent players in the futures markets.

18                   And in the swaps market, we're lucky to  
19                   see many more transactions or transaction venues,  
20                   swap execution facilities. We have to integrate the  
21                   FCMs. We have to make through multiple clearing  
22                   houses. It all has to happen in less than a blink  
23                   of an eye.

24                   And so our challenge is obviously to make  
25                   sure that from a technology standpoint that this

1 functions effectively, efficiently and a time frame  
2 that we have -- we have created our rule-making and  
3 that you can all transact without any problem.

4           So this is the panel, what are we for?  
5 What is possible? And it's clear to me that it's an  
6 industry solution and we're going to rely heavily on  
7 the industry. The good news is when we first put  
8 our proposal of rule-making on the documentation,  
9 document -- that's when the documentation lifespan  
10 ended and the next concepts began.

11           The four gentlemen we have here today have  
12 taken a very active role, buy side, sell side.  
13 We've got execution. We've got confirmation to try  
14 to give you a representation of all elements in a  
15 very short panel of how we're thinking, how the  
16 industry is thinking about it and how we can expect  
17 the transac going forward to make sure that we have  
18 credit checks on all of our trades.

19           We have the ringleader, Randall Costa,  
20 managing director of Citadel. He is responsible for  
21 a range of strategic initiatives for Citadel,  
22 including OTC derivatives. Prior to joining Citadel  
23 in 2007, he was a CAO of fixed income in Citi-group.

24           We also have Paul Hamill with UBS, and who  
25 did not send in a bio. He's managing director of

1 UBS and has spent a lot more time in Washington,  
2 because we've seen him a lot more.

3 Then we have Jeffrey Maron, managing  
4 director of MarkitSERV. Jeff served -- joined  
5 MarkitSERV in 2000 -- in January of this year as  
6 managing director and a member of the management  
7 committee. Prior to this he was head of client  
8 technology and the head of administration of  
9 E-Commerce at GFI with over 20 years of experience  
10 in the financial markets.

11 And then finally we have Jim Rucker, head  
12 of Credit and Risk, MarketAxess. Jim served as  
13 chief operations and credit and risk officer at  
14 MarketAxess Holdings from 2010 to February of 2011,  
15 and previously served as the CFO, June 2004 to 2010.  
16 Also served as head of finance as well, vice  
17 president of international fixed income operations  
18 at Chase Manhattan before that.

19 So gentlemen, I don't know if you have a  
20 specific order. I don't. But you're free to start.  
21 With Paul Hamill. And if you want to give us any of  
22 your background, I apologize. I just didn't have a  
23 document for you.

24 MR. HAMILL: (Off microphone).

25 COMMISSIONER O'MALIA: Okay. Hit the

1 button. Light it up and --

2 MR. HAMILL: Okay. Thanks. I guess what  
3 we thought we would do by way of introduction is  
4 just give some history to sort of the working group  
5 and the business problem, just so people have the  
6 context of kind of what we're going to talk about  
7 today.

8 From a business standpoint, the problem  
9 here is one of certainty of execution and I think as  
10 a group of market participants, industry  
11 participants, we started to talk about that in  
12 various forms throughout the course of mostly last  
13 year, and really that is as we move to an  
14 environment where the products we trade are subject  
15 to some sort of mandatory clearing requirement, then  
16 the kind of trade is not done until the trade is  
17 cleared, and that's obviously different to the world  
18 we live in today and was a problem that we would  
19 have to solve for.

20 So that kind of certainty of execution  
21 problem started to manifest itself more quickly as  
22 we started to talk about some of the sort of  
23 standardized documentation structures that we were  
24 looking to put in place as an industry, especially  
25 last year.

1           A small working group formed around about  
2 June last year and started to look at how other  
3 markets solved this problem and what are the  
4 technologies and other solutions might be out there  
5 to achieve some of the things that were being  
6 discussed in the documentation so we have the  
7 trilateral documentation structure. But it was also  
8 a view that we should think about how technology  
9 might solve some of those problems, and start to  
10 examine how other markets worked.

11           So we did that, and that small group  
12 worked closely with CCPs, SEFs, buy side, sell side,  
13 you know, pretty much anyone who was interested from  
14 a market standpoint, and sort of tried to establish  
15 some principles, and then ultimately that folded  
16 into what became the FIA as the working group, which  
17 was then used to kind of more broadly socialize some  
18 of the issues and the concepts to try to get more of  
19 a consensus view across the market and what the  
20 outcomes kind of might be.

21           So I would say -- and currently the FIA as  
22 the working group is probably best described as  
23 being in the process of sort of finalizing the  
24 consensus around what those principles are, and I  
25 think we'll talk about a few of those today.

1                   With that, I'll probably hand over to  
2 Randall.

3                   MR. COSTA: And further just to set the  
4 stage, there was a slide, I don't know -- there's  
5 one. Oh, it might be on here. Well, I'll start and  
6 then if we can get the slide. The purpose is to  
7 really set the stage for -- this is a really  
8 interesting problem set, because it's at the  
9 intersection of risk, legal, plumbing and market  
10 structure, so where the money flows, and how markets  
11 evolve or -- and at what pace?

12                   As Paul set up, once a swap is accepted  
13 for clearing, bilateral counter-party credit risks  
14 or performance risk, is eliminated through the  
15 interposition of the clearing house. Then the  
16 clearing house becomes the buyer. We know. So the  
17 question is, how do we get from the point of  
18 execution to the point of clearing acceptance or  
19 make them the same?

20                   Looking at the illustration, if alpha fund  
21 executes a swap with swap dealer Y with the  
22 intention to clear it, and were any time to elapse  
23 between the point when the parties say done and the  
24 point the clearing house accepts it, there is risk,  
25 however small, that the trade is not accepted,



1 mostly likely because one party exceeded its credit  
2 limit for clearing.

3           If the trade is not accepted and time has  
4 passed, the replacement price for the non-breaking  
5 party may be different than the price for the trade  
6 originally executed, the difference in price we  
7 refer to as breakage.

8           The discussion topic here is how to deal  
9 with this risk. This is not a new challenge. It's  
10 been solved in a range of existing cleared  
11 derivatives markets, as Paul alluded to, such as  
12 futures, listed equity derivatives, and energy  
13 swaps. And in part based on those existing  
14 frameworks, solutions are built or under  
15 construction for cleared OTC derivatives.

16           We hope -- I don't know what the protocol  
17 is typically for this panel, but while we represent  
18 buy side, sell side, trading venue and middleware --  
19 and confirmation, there are clearing houses  
20 represented on the panel that are very much a part  
21 of our solution process here, our industry. So we  
22 hope they can speak freely as we go along.

23           When we look big picture at those existing  
24 markets -- and what we're looking at today already  
25 with cleared OTC derivatives, there are two

1 operational models -- there's host execution  
2 clearing acceptance and pre-execution clearing  
3 guarantees. If we were to walk quickly through -- I  
4 can try to refer to the diagram -- I know these are  
5 very familiar to most people in the room -- in  
6 post-execution acceptance, the trade is executed, so  
7 it would be alpha fund and swap dealer Y. They  
8 would execute it through whatever modality, voice,  
9 SEF. They would execute it and the trade would be  
10 submitted to the CCP for clearing.

11           Before the CCP can accept it, it has to  
12 run through some fundamental checks. If we look at  
13 this diagram, it's first of all, of course, is the  
14 product one that they accept for clearing. And the  
15 SEF or the trade capturing utility may already have  
16 filtered for that.

17           Two, is the swap dealer. Let's imagine  
18 the swap dealer was self-clearing. Are they within  
19 their limits at the clearing house? Three, is alpha  
20 fund within its limit set by its clearing member  
21 such that the clearing member will say, I accept  
22 this? I stand for this trade? And four, is  
23 clearing member X also within its limits at the  
24 clearing house?

25           If the CCP runs through all those checks

1 and those are affirmative, it sends a message back  
2 to the participants, trade accepted. What I just  
3 described is all known to you as ClearPort. Happens  
4 in seconds, breaks very rarely, if -- very, very,  
5 very rarely. That's the post-execution acceptance  
6 model.

7           In the pre-execution guarantee model, the  
8 counter-parties to the trade are not able to trade.  
9 They're not permitted to trade unless they first  
10 pass a filter that assures that they have already  
11 sufficient clearing limit, and the focus in all of  
12 these industry discussions for the bulk of this time  
13 has been around the client, presumably the greater  
14 risk.

15           So the filter, as we're going to discuss a  
16 lot here, can be held at the SEF, or the limit could  
17 be in principle reserved on a trade-by-trade basis,  
18 and we'll talk through some of those different  
19 options that would overcomplicate the diagram if we  
20 had put it here.

21           But the point is that if alpha fund goes  
22 to trade with swap dealer Y, if there's already a  
23 facility in it in place where swap dealer Y can rely  
24 on clearing member X on behalf of alpha fund, having  
25 vouched for that trade, in other words, through

1 automation, alpha fund goes to input the trade, and  
2 it passes a filter, the effect of which is to say  
3 that clearing member X is going to stand for its  
4 client in that trade, then swap dealer Y doesn't  
5 have to worry about even the hypothetical  
6 possibility that the trade would break in a  
7 post-execution context.

8           And what I just described is all very well  
9 known to you from, for example, and there are many  
10 examples, like Globex. In effect, I think even this  
11 morning it seemed there was some discussion about  
12 those kinds of filters, those pre-execution filters  
13 that ensure that the parties through the trade know  
14 that the trade is going to get cleared.

15           The CME rules say basically, if we see a  
16 match trade done in Globex, it's accepted. In  
17 principle, that's because the CME -- the clearing  
18 house can rely on those checks having been done.  
19 And of course, CME is watching its clearing members  
20 as you go along, so it knows that that trade is  
21 stood for, especially when we're talking about an  
22 indirect clearing participant or alpha fund, the  
23 client. We know that the clearing member is going  
24 to stand for that trade.

25           The -- if post-execution acceptance

1 operates in real time, that is, if the parties to  
2 the trade know immediately whether the trade is  
3 accepted, even in the post-model, then if the trade  
4 is not accepted, there is no trade and there is no  
5 breakage. Again, we're talking something familiar  
6 to all of you in the ClearPort model.

7           However, if time were to pass in the  
8 post-execution approach between execution and  
9 clearing acceptance or rejection, there would be the  
10 risk of breakage. The pre-execution guarantee model  
11 prevents parties from even entering into the trade  
12 unless there is sufficient clearing limits set aside  
13 to ensure that it will be accepted.

14           However, a pre-execution model, as we're  
15 bound to talk about here, creates more processing  
16 steps and credit limit management complexity. The  
17 -- just one big picture, market structure point, if  
18 through post-trade real time acceptance or through  
19 especially pre-execution guarantees, the risk of  
20 breakage is eliminated, then each party is free to  
21 trade with any other party and secure best available  
22 pricing. Real time or guaranteed acceptance is  
23 fundamental therefore, to anonymous central and  
24 mid-order book trading since each participant in the  
25 club doesn't know who it's trading with and needs to

1 rely on the framework to ensure that its trade gets  
2 done. Also for the club, because execution prices  
3 are displayed to the market in real time, they need  
4 to be definitive.

5           Finally, real time acceptance or  
6 pre-execution guarantee by eliminating the risk of  
7 breakage eliminates the need for any documentation  
8 between executing counter-parties that would seek to  
9 allocate the risk of breakage. If there's no  
10 breakage, there's no need to have documentation that  
11 allocates that risk. And that in turn eliminates,  
12 from our perspective, on the buy side, a huge  
13 barrier to getting up and running with clearing.

14           So we have to, before we trade, exchange  
15 perspectives. In terms of the big picture  
16 principles that we're moving forward with in the  
17 FIA, is the working group, which is a working group  
18 that works by consensus. It's a bunch of folks  
19 coming together with the spur, the incentive, the  
20 framework of regulation, the incentive, economic  
21 incentives of collectively maintaining a healthy  
22 market, and also avoiding building infrastructure  
23 that people won't use.

24           So there's a sort of a collective need,  
25 even if we have different perspectives, to try to

1 arrange where we can around standardized solutions  
2 where we don't see competitive advantage. So in  
3 that context, there's a broad consensus that while  
4 the post works and is working and, you know, if  
5 there was an economic crisis and I as a buy side  
6 firm had a choice between not clearing or clearing,  
7 we could live with that just fine. There's a broad  
8 -- I'd say a broad consensus to move to pre, because  
9 it will enable all forms of trade execution, all the  
10 different modalities that we just touched on.

11           And how we build that requires  
12 clarification on where we put the limits, where we  
13 particularly house -- and we have to break it into  
14 two discussions. One is where we put the customer  
15 credit limits established by the clearing member,  
16 and then separately, how we treat -- how we treat  
17 the clearing members or self-clearing or direct  
18 clearing participants.

19           Again, we're solving for something that's  
20 been solved for in many other markets, so we have  
21 the benefit of transposing technology and workflow  
22 that exists in those with the difference, as  
23 Commissioner O'Malia, you pointed out, that we're --  
24 here we have a market where -- well, in some markets  
25 we have multiple clearing houses, so we solve for

1 that. We now may have a larger group of execution  
2 platforms and modalities going at the same time.

3 I don't know if you want to speak to -- I  
4 mean, there has been some movement toward consensus.  
5 I don't know, Paul, if you want to speak to it, in  
6 the group, but then we can each offer perspectives  
7 from our stakeholder positions.

8 MR. HAMILL: That summarizes it well. I  
9 mean, I think you could debate this question of need  
10 for pre or post all day long, and you could sort of  
11 debate the idea that technology is going to get you  
12 to that place where posts can happen quick enough.

13 I think however long you debate it,  
14 there's a feeling from a risk standpoint by the  
15 majority, as Randall pointed out, of the market  
16 participants that when executing these kind of  
17 trades, such as like a credit default swap, that the  
18 risk of the product requires that you know you have  
19 a trade at the point of execution.

20 It's just simply too much concern out  
21 there that people have around doing trades and  
22 finding out later that they don't exist. It's just  
23 not a deep liquid market where you're perhaps just  
24 going online to trade or break it or whatever. You  
25 know, the market could have moved materially. A



1 series of events likely to occur along the lines of  
2 someone having a trade rejected and a very volatile  
3 market could result in big losses.

4           And I think most people involved in the  
5 group are just concerned generally that the market  
6 is illiquid enough. A lot of the changes that are  
7 going to occur already create some risks that people  
8 will leave the product or not understand how the  
9 product now works. And so what we certainly don't  
10 want to do is introduce sort of another layer of  
11 risk which is a lack of certainty around execution  
12 as an unintended consequence of the way in which we  
13 choose to clear the trades.

14           So that's really been -- it may seem a  
15 small point, but it's been very, very relevant to a  
16 lot of the participants. And I think even if over  
17 time it's fantastic if we do get to a place where  
18 things happen post, I think in the initial stages  
19 it's essential that we have pre -- pre-trade credit  
20 checks to get people comfortable.

21           So I think we talked through a range of  
22 different options. We obviously have this -- a  
23 world where you could do something like a trilateral  
24 where everyone would communicate a limit to each  
25 other via document. That's quite complicated.

1           Along that spectrum you have a world where  
2 everyone -- you could communicate limits to all the  
3 different execution venues, such as SEFs and other  
4 people, which is even more fragmented and  
5 complicated, or you could have -- where you  
6 communicate limits through CCPs or lastly, some kind  
7 of uber (ph) single central hub type model.

8           I think where the industry sort of came  
9 out was on the set of CCP solution, largely because  
10 people are focused on using -- you know, focused on  
11 costs. They're focused on using infrastructure and  
12 pipes and plumbing that exists today, focused on  
13 time to market and obviously concerned with well the  
14 idea of this kind of hub thing is a nice idea. It  
15 only works if you only have one hub. What if you  
16 have five? Suddenly you're then back to the same  
17 problem where you kind of wish you were just using  
18 the three CCPs, or however many it is that we have.

19           So I think there's recognition that each  
20 of the solutions has pros and cons and some flaws.  
21 Generally I think we've sort of gotten to a place  
22 where it's a pre-trade -- pre-trade credit check by  
23 and large residing with limits at the CCP, which the  
24 SEFs and other sort of execution venues will be able  
25 to tap into for credit checking at the point of

1 execution.

2 MR. COSTA: And if I can just set up a few  
3 vocabulary words that I know we're going to keep  
4 talking about. It's the -- we talked about -- it's  
5 the three Ps. We talked about post. We're going to  
6 talk about ping and we're going to talk about push.

7 So the ping is the higher latency. The  
8 notion would be that wherever the credit limits are  
9 housed -- let's take Paul's example. Let's say  
10 those limits, as with ClearPort with -- let's say  
11 they're up at the CCP. An alpha fund is going to  
12 trade with swap dealer Y, let's say on an RFQ.  
13 Before alpha fund -- it says I'm going to introduce  
14 my RFQ and I want it to go through the SEF and be  
15 displayed to five dealers.

16 The way to secure this pre-trade workflow  
17 in a ping model would be that the SEF would --  
18 before allowing my RFQ to go through to those five  
19 dealers, would ping the credit limit housing  
20 facility at the CCP where it would say, hey, alpha  
21 fund wants to do a trade of 10 in X, is there a  
22 limit for that, yes or no?

23 And the limit housing facility having  
24 stored and the limits set by clearing member X  
25 dynamically changed through the course of the day

1 and dynamically changed automatically as automation  
2 gets -- you know, is built around it -- would say  
3 yes, limit lock, limit reserved. And that would --  
4 and the message would go back and then the SEF would  
5 allow the RFQ to go out to the five dealers and the  
6 dealers would know that because it was allowed  
7 through by the SEF it has that clearing member  
8 sponsorship behind it.

9           The push by -- so that's fine in a higher  
10 latency environment. And that means that you have  
11 one little -- one pot, let's say in my example of  
12 CME, CDS, credit for alpha fund established by  
13 clearing member X. So you draw from that pot. It  
14 goes and it reserves 10. If the trade gets done, it  
15 consumes that 10. If the trade doesn't get done,  
16 it's unlocked, and you could proceed all day like  
17 that.

18           And that limit again, that pot could  
19 change dynamically, depending on clearing member X's  
20 view at any given point of alpha funds credit. If  
21 instead we weren't particularly motivated by a need  
22 for a lower latency, let's say we want a limit order  
23 book and we don't want to be held up even for those  
24 -- that round trip of the ping, then we have a push,  
25 which is alpha fund says to clearing member X, look,

1 you can keep my single pot up there at the clearing  
2 house. That's good. You gave me a hundred in  
3 limit. But I want you to put 40 at SEF X, Y, Z.  
4 That's a cloud. So that the filter is held right at  
5 the SEF.

6 And every trade as I go to enter into that  
7 order, or aggress an order is -- either passes the  
8 filter, or as I said before, it doesn't happen if it  
9 doesn't reach it. So the counter-party on the other  
10 side isn't exposed to the risks of breakage. So  
11 that's the push.

12 COMMISSIONER O'MALIA: Jim, I think we'll  
13 go to you and then Jeffrey.

14 MR. RUCKER: Thanks, Commissioner O'Malia.  
15 Let me just preface what I'm about to say by saying  
16 that MarketAxess is an electronic trading platform  
17 in the credit space. So the class of swaps are  
18 traded on the platform as CDS. So the solutions  
19 that we build are specifically for CDS. I would  
20 imagine that they're not dissimilar for other types  
21 of swaps, but that's not what -- the only swaps that  
22 trade on the platform of CDS.

23 We took a bold step a little while ago  
24 building in pre-execution credit limit checks on our  
25 platform based on what we were hearing from the

1 industry. We currently have two ways for those  
2 pre-execution credit limit checks to take place.  
3 The first of those is we allow FCMs to upload to us  
4 at the beginning of the day their credit limits for  
5 their clients.

6 As trades are done over the platform then,  
7 when the inquiry or the order is created, we check  
8 against those limits of the FCMs as they're provided  
9 to us. If it passes the credit check, then the  
10 inquiry can progress and the trade can be completed.  
11 If it doesn't pass the credit limit checks, the  
12 trade is held up at that point and it can't progress  
13 any further.

14 We collect trades during the day so we're  
15 monitoring the gross notional trades executed  
16 against the limit and we would expect that every  
17 morning we would receive new limits updated from the  
18 FCM against which we would check the trades of the  
19 coming day.

20 So that's method number one. The second  
21 way we have of doing this is when an inquiry or  
22 order is created on a platform, we have the ability  
23 to message out to an FCM, or the ping method that  
24 Randall spoke about that allows the FCM then to  
25 confirm back to us whether the inquiry or order is

1 within the limits that the FCM has for their  
2 clients.

3 Now obviously that second method also  
4 opens itself up. Instead of limits being managed by  
5 each individual FCM at the central credit limit hub,  
6 it's pretty easy for us to have messaging out to a  
7 central limit hub rather than messaging out to each  
8 individual FCM. The reason that we built it that  
9 way is to give us the flexibility, depending on  
10 which solution the industry chooses to do it both  
11 ways.

12 But that's essentially what we've built so  
13 far. In terms of the cost of doing that, we spent  
14 something in the range of \$200,000 to date in  
15 programming those solutions into the platform. At  
16 this point, we halted development of this stage,  
17 waiting to hear more about the industry feedback and  
18 the work of the FIA as a group.

19 To really round out the credit limit  
20 checking, we need to do some additional work. If it  
21 remains along the current lines of the SEF  
22 monitoring limits and reaching out to either the  
23 FCMs or central hub, we estimate there's probably  
24 another hundred thousand dollars of development  
25 spending we need to make to really complete the

1 credit limit checking on the platform. So we  
2 estimate the solution, when completed, will cost us  
3 in the region of \$300,000.

4 So that basically is what we have. The  
5 one thing I would add is I think we would be  
6 supportive of some industry solution that created  
7 some central method after checking credit limits.  
8 Now obviously there would be substantial work to do  
9 if we had to create the connectivity and the  
10 messaging with all of the FCMS that would have  
11 clients participating on a platform. That itself  
12 would create some additional work.

13 So as I say, we would be in favor of  
14 finding some sort of central solution.

15 MR. COSTA: Directly responsive to that, I  
16 should mention that a key work product for the FIA,  
17 as to working group, is -- so the first is what Paul  
18 said, which is a defined set of consensus principles  
19 to the extent possible so that there is guidance  
20 there. Separately though, there is a technology  
21 group that is being formed literally this week whose  
22 charge is to establish a messaging protocol to be  
23 standardized across the industry. That's to that  
24 point that -- you know, nobody, I think, sees  
25 competitive tritiation in messaging protocols.



1                   And what messaging protocol means is at  
2 one level highly technical, so that all of the  
3 stakeholders in that diagram can communicate  
4 according to the same -- using the same language.  
5 But more specifically, in alignment with the  
6 principles as you work through the use cases, some  
7 of which we've just described in general here, there  
8 would be agreed messaging, little sequences so the  
9 protocol for a ping sequence coming from a SEF to  
10 the credit limit housing facility and back again,  
11 would be fully standardized, so that we're  
12 eliminating barriers to entry across all the  
13 different SEFs, and minimizing the extent of access  
14 investment around standardization that's good for  
15 everyone.

16                   MR. RUCKER: A standard messaging protocol  
17 would clearly be a significant benefit to us in  
18 ensuring that the work in connecting to all of the  
19 individual FCMs was minimal.

20                   CHAIRMAN GENSLER: Just one question.  
21 Your hub, the document that I'm looking at, which I  
22 assume is MarketSERV's. So it's Jeffrey's hub, but  
23 I apologize, because Jim talked about hubs.

24                   MR. MARON: We're all in this together.

25                   CHAIRMAN GENSLER: What's that?

1 MR. MARON: We're all in this together.

2 CHAIRMAN GENSLER: That's right. To bring  
3 -- to bring transparency to America. I'll wait for  
4 Jeffrey, but the question that I'll have for both of  
5 you is just how your respective hub or hubs relate  
6 to the rules that we just finalized a week or so  
7 ago.

8 MR. MARON: We can talk through that.  
9 That would be great. Thank you.

10 So Randall did a very nice job of walking  
11 us through and describing a lot of the issues. My  
12 grandmother always said, a picture's worth a  
13 thousand words. So I'll talk you through some of  
14 the diagrams as well.

15 Just by explanation, MarkitSERV currently  
16 is involved in the infrastructure in the industry.  
17 We're the messaging system that people use today  
18 from execution to clearing houses to the DTCC, which  
19 is one of our parents, in terms of warehouse, all  
20 the way through.

21 So we already have a good understanding of  
22 what the structures are. We currently house a lot  
23 of the static data that would be required to make  
24 this operate properly. And we already communicate  
25 with the clearing houses.

1           So let's just quickly through some of the  
2 potential models as Randall described them. So the  
3 first one is the CCP holds the limit, and in which  
4 case, each FCM provides a CCP, but they provide each  
5 CCP with a limit, which means if we have several  
6 CCPs -- we do around the room today. We've got ICE.  
7 We've got CME. We've got IDCG.

8           Each FCM would have to everyday decide how  
9 much to give to each CCP. They can dynamically move  
10 intraday, but they're always deciding ahead of time  
11 how much line to leave each one of their clients at  
12 each one of the CCPs. And as we have Eurex and  
13 others that are looking to enter the market, that's  
14 going to continue to fracture out the liquidity  
15 that's available for clients to execute and move  
16 liquidity around intraday.

17           The second is for the SEF to hold the  
18 limit as allocated by the FCM, and we all know --  
19 God knows how many SEFS we're going to have. There  
20 seems to be more every day. We're going to settle  
21 down to fewer than we have today, but even still,  
22 that results in fracturing the lines that are  
23 available out there, each FCM to have to manage now  
24 across all the different SEFs, how much limit to  
25 make available.

1           Going clockwise, the FCM can hold the  
2 limit and do it per trade query, in which case, they  
3 hold it centrally. They know in real time what's  
4 available. They can view it against the futures and  
5 options positions. They can do it against cash and  
6 do basis, but that means that every SEF needs to  
7 contact out to every FCM. And although that's been  
8 done to some degree thus far for asset class, we  
9 would need to have a proliferation of those.

10           The fourth choice in the lower left-hand  
11 corner is the hub holds the limit, in which case  
12 there's one central location for all the FCMs to get  
13 together and put the limits in place for all the  
14 SEFs to go to to look for those limits, and for all  
15 the CCPs to come in as well.

16           So how would this actually work? What are  
17 the risk measures and what are the different  
18 choices? Well, the FCM could continue to calculate  
19 the risk every time a trade came in. They'd have  
20 the benefit of knowing the portfolio and could look  
21 at this across a wide variety of options.

22           However, that adds latency in its time and  
23 again has to go back to the FCM. The hub could  
24 calculate it as well, and we've come up with some  
25 methodologies for optimizing how this could be done

1 and in reducing latency. One of the things that  
2 Markit -- our other parent does very well is pricing  
3 of derivatives. So we have the benefit of using  
4 their models, which are ready industry standard.  
5 Also, the SEF could calculate it, but again, each  
6 one's highly autonomous and there are quite a number  
7 of SEFs that are out there.

8           So when would we reserve the line? As was  
9 mentioned early, the best thing is to do it  
10 pre-trade. So every time the bid or an offer would  
11 be entered into a SEF, they could reach out to the  
12 hub and check at that point in time. And as that  
13 order moved around the market, it would already have  
14 pre-trade certainty. You would know that that order  
15 was good, that bid or that offer was available to be  
16 executed against. And therefore, when people looked  
17 at the market and looked at the SEFs for price  
18 transparency to get an estimate of liquidity, they  
19 would know what they could do and they would know  
20 what couldn't be done. And this would work both  
21 from a central order book as well as on an RFQ  
22 basis.

23           Well, how would limit be calculated?  
24 There are a couple different models that are out  
25 there. We could do notional, but as people started

1 to get into spreads, got very difficult. We could  
2 do it the simple basis, or what we decided to do was  
3 just do a simple DV01 with a matrix. That took  
4 everything down to a pretty common methodology for  
5 most of the FCMs to work with.

6           What's acceptable latency? The answer is  
7 almost none. So folks that were looking for it to  
8 build this platform currently build and operate  
9 exchange trading platforms. We're looking for a few  
10 milliseconds, which means that when a bid or an  
11 offer goes into the market and joins the bottom of  
12 the stack, by the time it iterates up through, you  
13 already know whether that trade can be done or not.

14           How do we take care of the individual  
15 fund, which is a significant issue? And you guys  
16 have solved that fairly recently by saying that  
17 we're going to operate almost like an IB basis where  
18 it will be done at the block pre-allocation level  
19 and then allocation will take place later on.

20           Confidentiality? People were concerned,  
21 if the FCM needs to give the line out to each one of  
22 their individual clients every SEF or every CCP  
23 that's out there, more knowledge is available about  
24 what those lines are than some folks felt  
25 comfortable with.

1                   By keeping it in the SEF -- sorry, by  
2 keeping it in the hub, that enabled only one  
3 location to know what their true line was. And  
4 because today we already know all the trades that  
5 have been executed and no one seems to have an issue  
6 with how well we're keeping confidentiality, we  
7 believe that was a reasonable solution to that  
8 problem.

9                   In terms of failure models, as was  
10 discussed earlier today by ICE and CME, people  
11 already have issues with how to do this and people  
12 already have come up with solutions as to how to  
13 handle disconnects and other issues. We don't  
14 expect this to happen very often, if at all, but we  
15 need to assume that there's going to be fell over,  
16 there's going to be two live systems, there's going  
17 to be disaster recovery, that everything be  
18 mirrored, and they all operate in real time, and  
19 that's all built into the solution.

20                   So in summary, what are the pros and cons  
21 of a central credit hub? First, standard messaging  
22 protocol. Randall's 100 percent correct, and the  
23 FIA as the working group is 100 percent correct. We  
24 all need to have a standard methodology for  
25 communicating with each other. But if everybody had

1 a right to everybody else, in subtly different ways,  
2 or over and over again, that sort of takes away from  
3 having the standard for messaging protocol. It's  
4 easier to write once -- write to one central place.

5 The cost of building the hub is less than  
6 the total cost of every FCM writing to every CCP and  
7 every SEF that's out there. It also enables a new  
8 entrant to come into the market. So IDCG entered  
9 the market. If someone else was a creative as they  
10 were and entered later on, would every FCM and every  
11 SEF want to be willing to write to them?

12 In the case of a hub, they would only  
13 write once and everybody would have equal access to  
14 them. Standard security, standard monitoring. So  
15 all of the risk measures that were spoken about, and  
16 in the documentation and last week's rule-making,  
17 are available in there as well. There's a global  
18 kill switch, so an FCM would have access to turn off  
19 a particular client across all SEFs, the same way a  
20 CCP would have access to turn off an FCM across  
21 those trading failures.

22 Real time updates, the availability for  
23 every FCM to update all their credit lines in real  
24 time if they chose, or discreet points in time if  
25 they chose to do that. And it's totally



1 independent. It's not owned by any CCP, any  
2 execution venue or anybody else.

3 Cons, there's a little bit of latency.  
4 It's a couple milliseconds. I'm sure some other  
5 folks will come up with some other issues as well,  
6 but that's the one that we hear the most and we  
7 believe the trade off of having a couple  
8 milliseconds of latency by getting that pre-trade  
9 certainty out of the way benefits the market  
10 overall.

11 CHAIRMAN GENSLER: So it's free. It's low  
12 cost. It's a profit center for -- can I just ask?  
13 How does it fit into the rules we just passed?  
14 You're -- I'm familiar with the rules, but I'm not  
15 familiar with your architecture here.

16 MR. MARON: In terms of the rules of  
17 making sure that every FCM has a series of limits  
18 for all of their clients, they can put the limit at  
19 the hub and do it once rather than fracturing that  
20 limit out. Therefore, they have greater certainty  
21 that the limits that they establish and the risk  
22 measures they established are all contained in one  
23 place.

24 We can have the hub, and we plan to have  
25 the hub send notification out to the FCM as a level

1 of orders builds up to a certain point. So if  
2 someone were to hit orders of 50 percent of their  
3 credit line, we would send a message, then 60, then  
4 65 percent. And by the same token, the FCM could  
5 take a look around and see how many orders are  
6 outstanding by going to one place and seeing what  
7 those risk managers are on a per trade basis.

8 CHAIRMAN GENSLER: I think what I'm  
9 hearing is your perspective is you're trying to  
10 market to the FCMS -- you didn't use that word --  
11 but market to the FCMS that you could fulfill their  
12 requirements that we just passed, that risk  
13 management filter. They would be hiring you.  
14 They'd still have the legal obligation, but you'd be  
15 their survey?

16 MR. MARON: Right.

17 CHAIRMAN GENSLER: You'd be their  
18 third-party vendor, but what you would be trying to  
19 appeal to them is that you could do it for the whole  
20 market, or at least a portion of the market, and  
21 then folks who actually trade in the market would  
22 have to decide, because some FCMS probably wouldn't  
23 use the hubs, some would and --

24 MR. MARON: It would achieve critical  
25 mass?

1                   CHAIRMAN GENSLER:   What's that?

2                   MR. MARON:   Hopefully it would achieve  
3 critical mass.

4                   CHAIRMAN GENSLER:   From a business  
5 perspective that's what you're -- I see.

6                   MR. MARON:   And then for their own, from  
7 an eligibility perspective, people -- the SEFs would  
8 be able to go directly to the hub and know that this  
9 client can trade this instrument through that FCM  
10 out to this clearing house.   Because we know of  
11 multiple clearing houses clearing similar products,  
12 as well as a kind of equivalent products, whether  
13 it's ears and swaps.

14                   MR. COSTA:   What the rule requires is that  
15 there be either immediate post or pre-execution  
16 certainty, and the pre-condition for that, going  
17 back to the earlier models, is that either  
18 immediately after or in advance, the trade has to  
19 pass a credit filter.   In respect of a customer  
20 trade, the clearing member has to vouch for it.

21                   So what's at discussion here is that a hub  
22 is one way to try to solve for that.   We do face a  
23 challenge with the different role players about  
24 where to put those credit limits.   And it's a  
25 balance between getting to market sooner,

1 competitive advantage, latency certainly, and who  
2 has to do what.

3           So maybe to sharpen the debate and start  
4 to form a little bit of a debate here with regard to  
5 the hub, ultimately you've got risk, so the FCM is  
6 the risk taker. The FCM's going to take risk on my  
7 behalf. They're going to determine at any given  
8 point in the course of a day how much limit they're  
9 willing to extend to me.

10           An important distinction, and I take up  
11 with you, is that there's a difference between limit  
12 and liquidity. So they may decide the liquidity  
13 that I have is the amount they're willing to take.  
14 So JP Morgan's my clearing member. They say I have  
15 100 in limit. The challenge for me across different  
16 clearing houses, let's say -- let's go to the ICE --  
17 the energy example today. I clear in two clearing  
18 houses. My clearing member has to manage that  
19 unitary 100 limit across those two clearing houses.

20           Now the liquidity I have with my clearing  
21 member is 100. The limits they may prescribe for  
22 me, which are held today at the clearing houses, may  
23 be more, because they know how I trade. They know  
24 me. They know that when I go into a given market I  
25 score on one out of 50.

1                   And they get to know you over time and  
2 they determine a limit that will always keep me from  
3 blowing my actual 100 limit, but will allow me to  
4 trade within that. And they certainly are prepared,  
5 as they do today, to dynamically manage between  
6 those two clearing houses.

7                   We should add that any such system -- and  
8 this ties to other aspects of the rules and was  
9 alluded to here -- has to have certain safeguards,  
10 that if there are larger limits than the actual  
11 liquidity that my clearing member wants to give me,  
12 there need to be safeguards at the SEF level. So  
13 this is part of the build for the SEFs, and I think  
14 they're all attentive to this, but it does need to  
15 be finalized as we go forward.

16                   Fat finger, a lot of this stuff you saw  
17 for the very high velocity markets this morning need  
18 to be built in for our lower velocity today. Fat  
19 finger checks, maybe size limits. The kill switch  
20 is critical. If we've got a kill switch that's a  
21 critical safeguard for FCMS, and also for clearing  
22 houses in the event one of their FCMS starts to  
23 wobble, then there need to be heartbeat monitors  
24 that ensure that from SEF to clearing house, there's  
25 never a lost connection, because if they hit the

1 kill switch, they know it has to work.

2           So those are all aspects actually of the  
3 messaging protocol. But what the industry would  
4 decide as the most efficient place to put the credit  
5 limits is very much an open question now in going  
6 forward how we do that.

7           COMMISSIONER O'MALIA: Jeffrey?

8           MR. MARON: If I could. I think you raise  
9 a very good point, and I think the world as it  
10 exists today has certain mechanisms for trading,  
11 because you go to the voice broker, you might go to  
12 three or four voice brokers and put an offer into  
13 each of them. And as soon as the first one takes  
14 that offer you'll call yourself off the others, and  
15 you're only exposed really -- you're exposed in  
16 three different voice brokers, but only  
17 realistically you're going to get it done in one.

18           However, the new ecosystem for swaps,  
19 we're executing through SEFs and electronic  
20 platforms. People are building arrogation platforms  
21 to then take the liquidity from all of those SEFs  
22 and arrogate it together. So the likelihood of  
23 someone getting swept and having all of their orders  
24 getting executed immediately is now much higher than  
25 it was in the voice broker world.

1           A number of FCMs have mentioned to us the  
2 concern about assuming that some of the trades will  
3 get done and some won't. They are very much  
4 concerned until we actually see how the ecosystem  
5 works and how things shape themselves out, that in  
6 the beginning they may end up having to allocate  
7 more credit line than they expected to because  
8 people do get swept, and all of their orders were  
9 executed rather than just the first one at the first  
10 voice broker. Now all three can get done instantly,  
11 and they won't have the opportunity to cancel the  
12 other two.

13           MR. COSTA: But let's be clear. We're not  
14 in a high frequency central limit order book world  
15 today. It's a fair point. We need to plan for it.  
16 That was this morning. I mean, we'll get there, I  
17 hope. I was actually thinking it would be great if  
18 in a year we have this morning's presentation for  
19 these markets, but we're not there yet.

20           And the -- there's an important thing to  
21 realize. We don't even have any functioning central  
22 limit order books for the buy side today. When we  
23 get there, there may be one or two, but the whole  
24 rest of the market is likely to move step by step  
25 through block trading, voice trading and RFQ.

1                   MR. HAMILL:  If I can make a point.  I  
2 think that a lot of these points are really good  
3 points.  I do think though the market will change.  
4 I mean, today if you think about maybe the  
5 investment index market, we make like 250 up  
6 markets, right?  I don't see a world where we're  
7 making 10, 250 up markets across 10 SEFs and 10 live  
8 order books.  It just won't happen.

9                   So I think a lot of people have speculated  
10 that available trade sizes on platforms will go  
11 down.  I would say that's one consequence we would  
12 expect to see.  So I think it's a valid concern, but  
13 I think there's ways people can react to -- I mean,  
14 no one is going to hang themselves out there to get  
15 lifted on 2.5 billion -- you know, if someone finds  
16 some way of doing that.  It's just people will  
17 protect themselves.

18                   So I think that's a concern, but I think  
19 there's a way in which people adapt to the  
20 electronification of the market and won't try to  
21 trade exactly the same way as they do today to  
22 protect themselves.

23                   COMMISSIONER O'MALIA:  Can I ask you a  
24 question?  To Jeffrey's point, whether it's 2.5  
25 billion or 5 million, I mean, nobody's going to want



1 get lifted on multiple.

2 MR. HAMILL: I think it will depend -- I  
3 mean, I don't know the answer to that question,  
4 because we've never lived in a world where there are  
5 10 SEFs, or whatever it might be. But we're  
6 probably going to want to have our markets out on  
7 multiple venues, that's for sure.

8 And if some of those venues operate any  
9 live environment, which some of them will, because  
10 some of the products kind of already do, like the  
11 indices, then I don't think we'll have a choice. So  
12 I think it is definitely a concern. We haven't yet  
13 really begun to sort of think about, or I don't know  
14 if something that the industry themselves can  
15 answer. I don't know if it's more of a regulatory  
16 question.

17 But we foresee a world where we will have  
18 live markets on multiple venues and in theory could  
19 get lifted at the same time and the same product in  
20 multiple venues. And I don't know how we -- one way  
21 in which we sort of protect ourselves from that.  
22 It's just the size that we show up.

23 But that's a natural -- I'm not saying  
24 that's a bad thing that you show a smaller size. I  
25 think some of the SEFs will likely create -- well,

1 two things will happen. Some of the SEFs will  
2 likely create sort of iceberg workup type trading  
3 functions, is my guess, so that people can show  
4 smaller size.

5 COMMISSIONER O'MALIA: Is this another ICE  
6 product?

7 MR. HAMILL: No. Sorry, just a  
8 coincidence, although I think they have one. But  
9 no. What I mean by iceberg is you show a smaller  
10 size than what you're -- than what you really want  
11 to trade. So there's the opportunity to do more,  
12 and somehow that is only discovered at the point of  
13 execution.

14 Equally we're all spending time and money  
15 building technology so that when we do get hit or  
16 lifted on a particular platform we can pull our  
17 liquidity off of other platforms. And again, I  
18 think that's -- that's not a new feature that we  
19 deal with.

20 COMMISSIONER O'MALIA: Chuck, an ICE  
21 product that is being offered that was announced  
22 down at Boca, I think, is your Plus One solution.  
23 Do you want to mention that? I would like to get  
24 industry input on this one. I've got a couple other  
25 questions, but I'd really be interested to hear kind

1 of the industry comment on this debate.

2 MR. VICE: Sure. Sure. We -- and we had  
3 to give it a name, because otherwise it was this  
4 thing we're trying to refer to. But this Plus One,  
5 ICE is a active participant and the FIA is the group  
6 that Randall was referring to, and so we're -- as is  
7 CME and other CCPs, and we've all been struggling  
8 with this ping versus push versus hub versus very  
9 complicated solutions, kind of gold-plated solutions  
10 with a lot of moving parts, and I think from our  
11 point of view, operational risk.

12 We've gone into it with the same  
13 priorities as everyone else, trade -- everyone wants  
14 to have as much execution certainty as possible.  
15 The FCMS want to be as fully protected as possible.  
16 We all want as low latency as possible. But I think  
17 for us, we also want -- we have two other  
18 requirements. There's little operational risk  
19 introduced as possible. And we also have some tight  
20 deadlines to meet. We can't be -- we don't have  
21 three years to build this.

22 We're big fans of phase one, phase two,  
23 phase three type of approaches to things. So for  
24 us, what we -- what Plus One was all about, and I  
25 can get into the details of that, if you want. But

1 we've put out a lot of information about it. But I  
2 think in a nutshell, we've said as a CCP, regardless  
3 of whatever else SEFs and hubs and the industry  
4 does, they're certainly free to do and expect them  
5 to do.

6 But as a CCP, we're going to have customer  
7 level limits that FCMs will set for their customers  
8 that we will maintain, and as executed trades come  
9 to us from SEFs or other sources, we will check both  
10 sides of that trade against that limit, accept it,  
11 do all the messaging you would expect, let them know  
12 that we accepted it.

13 And each FCM would set a threshold on each  
14 account and the first trade that puts them over that  
15 threshold will take that trade, so there's certainty  
16 of that trade. But we send a message out to all the  
17 SEFs that that account is essentially disabled until  
18 further notice or further trading.

19 So what we've tried to do is minimize as  
20 many moving parts. And this is not rocket science.  
21 I think as someone said earlier, there's variations  
22 of these things out there. And then going forward  
23 we as a CCP may enhance that solution to have more  
24 pre-trade capabilities than that initial version, or  
25 it may be that the FCMs, working with third parties,

1 or FCMs working directly with SEFs, adopt one or  
2 more of those models you saw up there to achieve  
3 whatever last narrow remaining piece of pre-trade  
4 certainty that they want to have.

5 I think part of our view is formed by the  
6 fact that we have operated OTC execution platforms,  
7 central limit order books in fact, very -- with high  
8 frequency traders in them, with pre-trade limit  
9 checks in --

10 CHAIRMAN GENSLER: It does work, doesn't  
11 it?

12 MR. VICE: -- for 10 years. It does work,  
13 which is good. I know that's where these guys want  
14 to get to, and we do as well. But we also know that  
15 the experience behind that is it's rarely -- very,  
16 very rare. I mean, far less than .1 percent less  
17 than that, that an order is actually rejected  
18 because it hit a limit.

19 So I think in terms of the 80/20 rule and  
20 tight deadlines, we take that experience and say,  
21 let's not build this complicated system to deal with  
22 the .001 percent of the time. Let's get something  
23 out that allows the 99 percent to happen  
24 efficiently, and it gives us more time as an  
25 industry to work on more complicated solutions to

1 better handle higher frequency trading and interest  
2 rates, credit and some of these other markets.

3 That's what Plus One was all about.

4 MR. O'CONNOR: I think it's important to  
5 remember that the markets that we were talking about  
6 this morning exist in a vertically, integrated,  
7 exclusive arrangement, and I think that's not what  
8 we're talking about with a swap market and that  
9 creates a lot of complication.

10 I think with regard to this debate, and I  
11 know that the groups working on it have concentrated  
12 on this issue, and that is, the cost of going from  
13 instantaneous or near instantaneous post-trade  
14 acceptance to pre-trade certainty, the cost of  
15 making that very small leap is significant, and I  
16 think it's important that we think about what  
17 benefit are we getting from taking that extra step,  
18 because the costs are -- the costs are substantial.

19 And I think we heard a little bit about  
20 where those costs come in, and they come in in two  
21 different ways. Number one, we're having to build a  
22 whole new set of infrastructure that's going to have  
23 to be funded, and it's not trivial infrastructure.  
24 It's a complex machine. And number two, any time  
25 that you ask either a clearing house or an FCM to

1 extend its resources, its limits beyond its own four  
2 walls, that they get hair cut. There's just no way  
3 around it.

4 We heard about various limit monitoring  
5 systems. We heard gross notional and we heard of  
6 DV01 matrix. Now I can see how they work from a  
7 latency perspective, but there is no operational OTC  
8 clearing house who monitors their risk in that way.  
9 They use far more complex ways of monitoring their  
10 risk, which are higher latency.

11 So in order to expose ourselves, expose  
12 our resources to that type of environment, we have  
13 to hair cut them. There's no way around it. So you  
14 reduce the limit resources available in the system  
15 and you increase the cost of transactions by making  
16 a very small leap in terms of instantaneous  
17 post-trade certainty to pre-trade certainty.

18 MR. HAMILL: Maybe -- I mean, looking at  
19 it from perhaps an execution side of looking at the  
20 product, I mean, I don't -- I don't think anyone --  
21 we talked about this in the industry group at  
22 length. I'm not sure anyone really thinks there is  
23 a question around that.

24 I think the tradeoff of some kind of  
25 operational cost versus introducing meaningful risk

1 to the product that could damage the product isn't  
2 really a tradeoff. I mean, today you have a product  
3 that when you trade it, it is done. If you move  
4 into a world where you don't have pre-trade checks,  
5 you have a product that you trade it and then you  
6 wait and see.

7 I'm not saying it couldn't be very fast,  
8 but you've changed the way the product works and you  
9 need to change what people think about managing risk  
10 around it. So from a risk standpoint, I don't know  
11 anyone who thinks that that's a simple question of  
12 just operational latency and cost. I think everyone  
13 sees it as a risk question.

14 MR. O'CONNOR: I disagree entirely. I  
15 think -- I don't --

16 MR. HAMILL: Then you disagree with  
17 everyone who's in that group basically.

18 MR. O'CONNOR: No.

19 MR. COSTA: I'll try to speak the middle.  
20 I think the bulk of the buy side actually aligned  
21 with more what Garry said. But looking forward and  
22 wanting to support efficient electronic trading, we  
23 are very supportive of, well, first of all, the ICE  
24 model, because that gives that increment of  
25 reassurance. Or ultimately pre-trade, because



1 that's what will enable central limit order books,  
2 very simplistic.

3 Now, it seems to me as we walk before we  
4 run, the bulk of trading that's going to be done in  
5 the next six months or nine months, will be much  
6 higher latency. We could manage with a slower  
7 process, including a slower pre-trade, if we start  
8 to move to central limit order books. Whatever was  
9 said before as a customer, I'm happy to be  
10 fragmented.

11 So if there's a SEF that's a true central  
12 limit order book and latency matters, then take a  
13 piece of my single pot, even my post-pot, and go  
14 ahead and push it up, haircut me so that I can take  
15 the latency. And then I don't want any intermediate  
16 steps. I don't want to wait even a little bit to go  
17 check somebody else, but only when we get there.

18 MR. O'CONNOR: But it's only required if  
19 you get there.

20 MR. COSTA: Yeah.

21 MR. O'CONNOR: Let me finish my point  
22 before I upset everybody in the industry. And that  
23 is that the way that it works today, I think is what  
24 happens is at the time of transaction, there's a  
25 contemporaneous process of credit check. Now from

1 the outside looking in, that may feel like pre-trade  
2 certainty, but it's not necessarily pre-trade  
3 certainty. A trade may -- a trade may not be  
4 executed because a limit is not available.

5 Now is that -- you know, in the brave new  
6 world, is that instantaneous post-trade approval or  
7 is that pre-trade certainty? It's not clear to me  
8 that it's one or the other.

9 MR. DURKIN: I just wanted to echo some of  
10 the comments that Chuck said earlier. I mean, we  
11 should not dismiss the models that have been in  
12 place for sometime that deal with both, I think  
13 effectively post- and pre-trade credit checks. And  
14 so when we talk about going down maybe a slightly  
15 different path, you also have to look at what has  
16 been put on this industry in general in terms of  
17 operational readiness and the timelines to be able  
18 to get all of this accomplished.

19 And so while we're all very sensitive to  
20 trying to get to that ultimate end, I do think we  
21 shouldn't dismiss what's out there today and what is  
22 working very well as we move towards that direction.

23 MR. HAMILL: I feel like I'm the only one  
24 arguing though for the pre-trade check, but maybe  
25 I'll just reiterate. I don't think because it's

1 easier to have a post-trade check that you do that  
2 and give away safety. Like that just doesn't seem  
3 to me like a sensible trade that anyone would make.

4 And I think whatever anyone would say  
5 about what that group concluded, there was a large  
6 majority of that working group, including buy and  
7 sell side, who would rather have a pre-trade check.  
8 That's not to say people don't recognize there's  
9 hair in getting it done and it's complicated and  
10 it's hard. But if you ask someone, pretty much  
11 anyone who trades credit default swaps, for example,  
12 at the point of execution, would you rather know  
13 then your trade is done or would you rather wait a  
14 little bit of time? The answer is, I'd rather know  
15 my trade is done.

16 But the question is, how do we achieve  
17 that? And no one's saying that's easy, but it's not  
18 a simple question of -- there's no value in it, so  
19 let's just look at what we have today.

20 CHAIRMAN GENSLER: Can I ask this? How do  
21 you read the rule that we just finalized if we said  
22 futures commission, everybody's sort of entering  
23 into a cleared trade has to have a futures  
24 commission merchant guaranteeing them? Isn't that  
25 in essence saying it's -- I mean, at least the FCMs

1 on the hook? Whether the FCM is checking pre or  
2 post, the FCM is on the hook so that you can have  
3 anonymous trading and let's hope that the FCM is  
4 managing it in a way -- not more than hope, but that  
5 they really are managing in a way that works.

6 MR. HAMILL: Go ahead.

7 MR. COSTA: I would say -- I was actually  
8 -- and this is part of the -- let's call it the  
9 dialectical synthesis in the sense that on -- the  
10 greater risk in theory is on the customer side. So  
11 I think we would agree that if -- and it's a less of  
12 a lift for the FCMS to stand for their customer  
13 trades, including through even a ping. We're  
14 hearing that from the SEFs. We're hearing that from  
15 the FCMS.

16 Where it gets -- where we really would be  
17 trying to revise the world would be to ask CCPs to  
18 put pre-execution limits out against their FCMS.

19 MR. MARON: And I think this is an  
20 evolutionary process. We're not looking to go whole  
21 hog and get to the end stage immediately. We would  
22 like to get to pre-trade certainty and have that  
23 pre-trade credit check, and it's going to take for  
24 us all to get there. But the FCM has to know about  
25 that order that was put in in order for them to

1 stand behind it. And they can either do that by  
2 having each of the SEFs tell them about it, or a hub  
3 or somebody else tell them about it.

4 But otherwise, how do you get them to  
5 stand behind a trade that they're not aware of until  
6 after it's gone through the clearing house?

7 CHAIRMAN GENSLER: But I'm gathering that  
8 you do interpret the rule that we just finalized,  
9 that everybody's got to have an FCM standing. So  
10 thus, if you enter a market anonymously, and you  
11 don't know who's on the other side, but you know by  
12 force of some law that the party on the other side  
13 has to be guaranteed by an FCM.

14 MR. MARON: Yes.

15 CHAIRMAN GENSLER: I mean, that helps the  
16 clearing houses.

17 MR. HAMILL: I think we're just talking  
18 here about the practical implementation of that,  
19 right? For an FCM to get comfortable with that,  
20 they have to put that limit somewhere and be sure  
21 that trade is being read against that limit. I  
22 think that's what we're effectively -- I think  
23 everyone agrees that's the best -- that's how the  
24 central limit order book needs to work.

25 MR. COSTA: I think the one section of the

1 rule would certainly accommodate ClearPort, in the  
2 sense that it's real time automated acceptance that  
3 would potentially be post.

4 CHAIRMAN GENSLER: But the FCM still has  
5 to stand behind it?

6 MR. COSTA: Yes.

7 CHAIRMAN GENSLER: I was talking about the  
8 FCMs. I recognize you're talking about the clearing  
9 houses, but I was talking about the FCMs.

10 MR. RUCKER: I just wanted to add a point  
11 on the practical implication of this, in my view is  
12 that way or another, the industry does need to reach  
13 a consensus on the way this is happening, because  
14 from a trading venue standpoint, and as hopefully a  
15 SEF, what would be hardest is if we end up with all  
16 these different models we've talked about operating  
17 in different circumstances. That, I think, would be  
18 very costly and very inefficient to the industry.

19 My personal view is that all of the  
20 solutions we've talked about could work to ensure  
21 that we get a clearing certainty, a point of  
22 execution. But what we do need to decide as an  
23 industry, what is the method we're going to follow?  
24 Otherwise, we really will create a lot of additional  
25 cost.

1           MR. HAMILL: To that point, I would say, I  
2 think, from a UBS standpoint, being both an FCM and  
3 execute, there may be -- there may be people who try  
4 to set up different models. I think the market will  
5 find its own equilibrium. I would not envisage we  
6 will trade on a SEF without a pre-trade credit  
7 check. Just couldn't see that working. I wouldn't  
8 envisage that as an FCM we would just waive trades  
9 in not based on some sort of limit that we have for  
10 these kind of products.

11                 So it will sort of self-police itself,  
12 because if someone goes out there and says yeah,  
13 hey, I'm setting up this SEF, it's a essential on  
14 the order book, there is no pre-trade limit check,  
15 we're going to check after the fact, and then  
16 someone else says, I'm going to set up a central  
17 order book, I'm going to require that somehow you  
18 post your limit to me and ICE is going to give me a  
19 venue to do that and I'm going to push it out there,  
20 and I know -- and they know what the point of  
21 execution that trade is done, and I can immediately  
22 read as an FCM how much of my limit is being used,  
23 that's how the market's supposed to work.

24                 So I think we will go to the venues that  
25 operate the way -- that make the most sense from a

1 risk standpoint for our firms. That's how I think  
2 that stuff polices -- I don't think we'll get to a  
3 single standard. I think that's obvious from some  
4 of the discussions we're having today actually.

5 CHAIRMAN GENSLER: Randall, can I ask you  
6 a question about your earlier chart? You happen to  
7 have in the box trade execution central and  
8 mid-order RFQ, voice, and I was just curious, does  
9 anything on this chart differ between those three or  
10 are you sort of neutral? Because you put all three  
11 in the box.

12 MR. COSTA: Does it differ in the sense of  
13 how we address the limit?

14 CHAIRMAN GENSLER: Or all of this sort of  
15 the financial integrity of trades.

16 MR. COSTA: In terms of pulling, a little  
17 bit potentially in the sense that -- I'm sorry, I'm  
18 still struggling a little bit about your earlier  
19 question that the rule-making. I think would still  
20 allow a ClearPort like structure even in the sense  
21 that it doesn't -- the trade does not have to pass  
22 to be within the rules. An FCM pre-existing limit  
23 filter, it could be done first and then within real  
24 time accepted. It's a fine point, but it becomes  
25 relevant to the voice trade context.



1 Am I being clear?

2 CHAIRMAN GENSLER: That's all right. It's  
3 the plumbing and the plumbing, so I'll try to catch  
4 up later.

5 MR. COSTA: The issue with voice is this.  
6 In the world -- there will always be -- like block  
7 trades, right? There will be voice trades, like on  
8 Globex today, we have a huge liquid trade.

9 CHAIRMAN GENSLER: Actually, I'll say --  
10 as I've said over and over again, block trades,  
11 absolutely.

12 MR. COSTA: Yeah, they will happen. So  
13 the thing is, we say done -- Paul and I say done off  
14 an RFQ. So there's no way as we're doing -- we're  
15 talking this through on the phone normally, that we  
16 -- we'll get there, but normally we would do this on  
17 the phone, and then we would input it into a trade  
18 capture facility.

19 And the way it would be processed, as I  
20 understand it even today, I'm looking over at Bryan  
21 at CME, it's like ClearPort. It's immediate post  
22 acceptance. It would hit the filters, both my FCM  
23 filter and my CCP checking, that it's within the  
24 FCM's limit. And from my perspective, that will  
25 work fine forever. It worked for futures for a long

1 time.

2           If you are -- if you want perfection and  
3 you want pre-execution certainty even on the voice  
4 trade, we can give that to you too, by leveraging  
5 the same infrastructure that we're talking about  
6 here. In principle market access, could -- let's  
7 say there's a trade that -- you know, I could do a  
8 trade and I could do an RFQ. It's going to pass  
9 through our ping filter or the push, and it's going  
10 to go to file. But I've got a blocked trade. And I  
11 agree with Paul; we could in theory leverage the  
12 same infrastructure and run it through.

13           We could put in the trade to one, because  
14 it was blocked. It didn't have to go to five. It  
15 goes to one. But before it goes to Paul via  
16 MarketAxess, it passes the credit filter. So he  
17 really wants that thousand percent certainty that  
18 there's no risk, that he breaks between the time we  
19 say done and the two seconds that the clearing house  
20 delivers the message back; you could have it that  
21 way.

22           And it isn't -- I don't think anyone built  
23 it, but it's not hard since everyone is busy  
24 building what MarketAxess set up. And we have  
25 certainly talked about that in the FIA as to form.

1 That's the only difference I see.

2 CHAIRMAN GENSLER: So you're saying in  
3 voice, or at least the voice you're identifying,  
4 which is a block, it's for a few seconds bilateral.  
5 Because it's not anonymous. You know it's Paul.  
6 Paul knows it's you.

7 MR. COSTA: Yes. It's not anonymous.  
8 It's between the counter-parties. We would say  
9 done, but we're intending to do a clear trade. If  
10 we're in a mandatory cleared world, there's no  
11 bilateral trade that gets converted to a cleared  
12 trade. We're doing a cleared trade, but it hasn't  
13 -- it's subject to acceptance and it hasn't been  
14 accepted for the time it takes for the two of us --  
15 if we were using a trade capture utility like  
16 MarkitSERV or ICE Link or VCON, he'd type in the  
17 trade and I'd type in the trade at the same time.

18 The trades would match immediately, just  
19 like with ClearPort, and as long as they align,  
20 there weren't an exception kickback, we'd fly to the  
21 clearing house, run through the ClearPort checks and  
22 pop back. And by the time basically we got done  
23 typing and took a breath, we'd have an accepted or  
24 rejected message back.

25 The buy side view generally is that if

1 somehow it was in that .0001 percent of being sort  
2 of rejected because I was stupid enough to blow my  
3 limit and not watching my fuel gauge, Paul knows who  
4 I am. He can say, oh, it was you. I know you're  
5 okay, or I'm walking, you know, I'm just walking  
6 from this trade. And I think that's the way the  
7 energy markets have worked and the way futures block  
8 trades work.

9 We don't sue each other. We don't need  
10 execution documentation to get this done. But there  
11 are other -- there are folks who are very concerned  
12 even about that instance. And we have a  
13 technological solution to it. It's MarketAxess  
14 leveraging or MarkitSERV, as a middleware or trade  
15 capturing utility could in theory plug into credit  
16 limit pots as well and deliver the same  
17 functionality, or the CCPs could offer it.

18 ICE, I think we've talked to ICE about it,  
19 or CME. They could similarly offer just like they  
20 have ClearPort today, or ICE Link today. I could  
21 just go to ICE Link and there could be a screen that  
22 would function as if it were ICE Link supporting  
23 credit techs or supporting a SEF.

24 MR. HAMILL: I think it's actually quite  
25 simple. You have one risk limit and you kind of

1 have three ways of trading. You're either trading  
2 on a limit order book or you're trading on a screen  
3 using a request for call or you're trading by voice.  
4 It doesn't really matter which one of those you're  
5 doing.

6           You're sort of doing the same thing and it  
7 just -- it's just more like a slow motion version of  
8 it as you -- on the central limit order book. It's  
9 already there and it's done. On the RFQ, it can be  
10 done. The limit could be checked as the RFQ is  
11 launched. And the voice is very similar to an RFQ  
12 trade. Sort of by voice trade, someone's calling  
13 you. There's a period of time. You give a price.

14           I think what's more complicated about the  
15 voice trade is where is it that you're going to look  
16 for the limit? Where is that limit exposed to?  
17 Does the clearing house do it through a front end,  
18 or do we check in on a SEF, or whatever it is?

19           But again, that's not hard. It's just a  
20 decision and it's also a competitive one that I  
21 think people will be continuing to try to build the  
22 best mousetraps for. I mean, it's my view that the  
23 -- you know, the risk managers will set up the  
24 clearing house and/or the MarkitSERV hub and if they  
25 want to be successful, they will offer a feature

1 that does something like this, so that people can  
2 get pre-trade certainty on voice trades as well.

3 I don't know that it's all that different.

4 COMMISSIONER O'MALIA: How long is it  
5 going to take to get to the ideal world of having it  
6 all plumbed and wired? I think our rule says  
7 October 1 of this year.

8 MR. COSTA: I just want to -- I don't  
9 think -- I think you've heard a number of us say we  
10 don't need to get to the ideal world. You've heard  
11 some real full ideals expressed here. What we need  
12 to get to by October 1 is a standardized messaging  
13 protocol. We need to, ideally, if we can, align  
14 around risk measures for asset class. That would  
15 certainly make the FCM's task easier and the CCP's  
16 task easier. But if we didn't, it wouldn't be the  
17 end of the world.

18 We need the SEFs, if they're active, to  
19 build the ping, or if elected, the push. And to be  
20 prepared to activate or handle the safeguards that  
21 we talked about that are intrinsic to the system,  
22 and also required in the rule-making.

23 We need the FCMS to finish the limit  
24 automation that they've already undertaken with  
25 respect to their individual customers. And then we

1 need the CCPs to build their Plus Ones effectively,  
2 or their equivalents. I've heard all of those  
3 stakeholders in my discussions with them say --  
4 you've got a bunch of them around the table, that  
5 they're prepared to do that for us to get up and  
6 running.

7           When we go more high velocity, then we  
8 want to intensify the robust -- the strength of the  
9 infrastructure to handle that lower latency.

10           MR. MARON: And there are interim steps  
11 that as was just mentioned, already in place. We  
12 won't be able to achieve that by October for the  
13 hub. We'll have it shortly thereafter, the next  
14 generation credit.

15           CHAIRMAN GENSLER: Bryan, did that sound  
16 like the -- right roughly?

17           MR. DURKIN: Yes.

18           CHAIRMAN GENSLER: Paul, just because  
19 earlier you peaked my interest on something. How  
20 many SEFs do you think there might be, you know,  
21 assuming we do our thing and actually finalize the  
22 rule this summer?

23           MR. COSTA: Per asset class.

24           CHAIRMAN GENSLER: No, no, no. Our bet's  
25 a little broader.

1 MR. HAMILL: Twenty-five. That's a real  
2 number. I'd say about that.

3 MR. COSTA: You mean worldwide or U.S.?

4 MR. HAMILL: SEFs are global then?

5 MR. COSTA: Because I count 14 now that I  
6 -- on my list.

7 COMMISSIONER O'MALIA: I just want --  
8 Cosgrove said there's -- he was a buyer at 100.

9 MR. COSGROVE: That was until I saw the  
10 SEF registration form.

11 COMMISSIONER O'MALIA: We're just trying  
12 to help.

13 MR. COSGROVE: You are helping.

14 MR. HARRIS: Thirteen SEFs have already  
15 signed up with NFA for -- 13 institutions have  
16 already signed up with NFA for regulatory services  
17 and I think it's going to be upwards of that.

18 MR. COSTA: But I think -- if I can  
19 contextualize, if not all of those are all asset  
20 classes, and very few of them are central limit  
21 order book. I think that's important to appreciate  
22 as we look at this discussion and decide what  
23 milestones we need to hit when.

24 MR. MARON: I thought most of the newer  
25 SEFs that were out there are all central limit order



1 book and all the IBs that are offering their  
2 platforms are all central limit order book. I think  
3 there are a few people today who do dealer client  
4 very well, like MarketAxess, that will offer RFQ  
5 potentially, a central order book as well, if we're  
6 not -- as they choose as the rules go through.

7 But I would be a betting person on the  
8 side of more central order book rather than less.

9 CHAIRMAN GENSLER: It somewhat depends on  
10 how we finalize. How we propose is everybody has to  
11 at least facilitate live, actionable ammo. So  
12 executable quotes, bids and offers with full market  
13 access, or impartial access, as Congress said.

14 I understand that Commissioner O'Malia is  
15 about to wrap up, so I just wanted to thank  
16 everybody. I think this is just really a terrific  
17 set of advice, advisors. I haven't seen what the  
18 smaller groups are doing with Andrei, but I think  
19 our Commission all benefits and the public benefits.

20 We have a lot of work in front of us and  
21 as these markets move and change, the technology  
22 component is critical. So I thank you.

23 COMMISSIONER O'MALIA: Any other final  
24 thoughts of TAC members, panelists? Let me thank  
25 you all very much. I want to thank our teams that

1 help set this up. Margie Yates and her team. We  
2 have the AV team that makes all of this work.  
3 Cornelius Sessions, Michael Jones, Gene Robinson,  
4 Joshua Griffin.

5 I want to thank my staff, Laura Gardy,  
6 Carl Kennedy, and Nancy Schnabel for their help.  
7 Obviously all of the people with the General  
8 Counsel's Office that -- and all of our staff  
9 assistants that will be helping out on the working  
10 groups.

11 I also want to -- just kind of a  
12 housekeeping matter. All good things must come to  
13 an end. The TAC Committee is no different. But  
14 it's only version 1.0. TAC 2.0 will be -- we have  
15 to renew the charter. The charter expires in June  
16 and I will renew it. I will renew -- obviously  
17 there will be seamless transition for the ATS and  
18 HFT.

19 I'm interested in what more work the Data  
20 Committee is interested in doing, and I'm certainly  
21 interested in the full committee's -- and we will  
22 renew it and if you're interested in participating  
23 again on the next one, 2.0, let me know. Those who  
24 you think would be good candidates, let them know.  
25 I'd also like to know about different topics, as

1 well, what do you think would be useful for us to  
2 attack and address going forward?

3           So this is a useful process. I've  
4 benefitted a lot in the brief two years that we've  
5 done it. We've got a lot of work out of you all and  
6 I greatly appreciate it. And so we'll renew this  
7 again, chairman willing, of course.

8           CHAIRMAN GENSLER: Commission willing.  
9 It's a Commission, General Services Administration,  
10 things like that. But it's been highly beneficial.

11           COMMISSIONER O'MALIA: Good. So to that  
12 end, we will keep going. Let me know if you're  
13 interested in serving again and we'll move from  
14 there.

15           Again, let me thank everybody for their  
16 time, their effort to participate and to support  
17 these groups and to support the Commission. It's  
18 very beneficial. So thank you very much for coming  
19 today and thanks for your participation. Thanks.

20           (Whereupon, at 4:14 p.m., the meeting was  
21 adjourned.)

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