

COMMODITY FUTURES TRADING COMMISSION TECHNOLOGY ADVISORY
COMMITTEE

Report of proceedings had at the meeting of the Commodity Futures Trading Commission Technology Advisory Committee, held at the Federal Reserve Bank of Chicago, 230 South LaSalle Street, Chicago, Illinois, on Tuesday, the 27th day of November, 2001, commencing at the hour of 1:00 o'clock p.m.

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PRESENT:

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MR. JOHN W. McPARTLAND, JR.;
MS. YVONNE J. DOWNS;
MR. SCOTT L. JOHNSTON;
MR. J. ROBERT COLLINS;
MR. PATRICK L. GAMBARO;
MR. JOHN P. DAVIDSON III;
MR. CHRISTOPHER MALO;
MR. MICHAEL MONAHAN;
MR. JEFF C. BORCHARDT;
MR. BRYAN T. DURKIN;
MR. NEAL WOLKOFF;
MR. KENT HORSAGER;
MR. RICHARD FRIESEN;
MR. EDWARD J. ROSEN;
MR. JIM HEINZ;
MR. CHRIS CONCANNON;
MR. KENNETH M. RAISLER;
MR. PETER BORISH;
MR. BOB FITZSIMMONS;
MR. TONY LEITNER;
MR. BRETT PAULSON;
MR. DAVE BATTAN;
MR. BILL MILLER;
MR. TOM McCABE.

COMMISSIONER ERICKSON: Okay. Thank you very much.

I just have a couple of announcements here first. I do want to thank John McPartland and Judith Kozla for all their work in hosting us today here at the Fed. I really very much appreciate it.

And I just want to give you a few instructions here and make a few announcements.

For participants at the table, we do have a telephone hookup to the Washington office, so as we speak, if we can move these microphones around and have them on -- there's an on/off switch on the bottom, and the panelists won't have to worry about that who join us later. There are mikes there.

But with those out of the way, I would like to welcome everyone to the third meeting of the Commission's Technology Advisory Committee, and I want to thank you all for being here. At meetings such as this, we oftentimes take the time to thank members and guests for taking the time to come to the meetings, but I'm especially thankful for your presence today because I know many of you have been directly affected by the events of September 11, and being here today is no small effort.

I'm also acutely aware of two who are not with us here today, Doug Gardner and Jim Lindau, both of whom served on this committee. Doug was the executive managing director of Cantor Fitzgerald, and Jim was the former president and chief executive officer of the Minneapolis Grain Exchange, and he passed away recently after a long illness. I know your thoughts and prayers are with Doug's and Jim's families.

These past two and a half months have challenged us all both professionally and personally in New York, Washington, and across the country. Our markets and their participants are playing key roles in the national effort to regroup and rebuild, while, as we will hear later in the day, repairing and rebuilding themselves. The importance of the role played by technology in these efforts can't be overstated. This committee meeting affords us all with the opportunity both to reflect on lessons learned after September 11 and to apply these lessons as we move forward in the months ahead.

As you can see, we have a very full agenda today. First we'll hear from two of our subcommittees, which have met numerous times since our last committee meeting and have developed interim reports and recommendations on standardization and market access issues. Second we'll hear from two panelists discussing the impact of the September 11 attack on markets and market participants. Finally we'll end the meeting by creating a work plan for the future.

Before we begin, I again want to just recognize the efforts of the Chicago Fed in hosting this meeting. I thought this would be a terrific opportunity for this committee to meet and piggyback on the FIA Expo, which I know many of you are planning to attend in the upcoming days, and just to enjoy Chicago.

I'd like just to recognize Judith Kozla from the Fed here, if she's around, if she can stand up. She's really been carrying a lot of the weight here. But, John, maybe you'd like to stand up in her stead.

I also just want to take a moment to thank my own staff, Natalie Markman, William Penner, and Dolores Vinson, for their efforts in putting this meeting together.

Today's meeting is being transcribed, and the commission will prepare an official transcript for the meeting, and as we have in the past, we'll post it on the Technology Advisory Committee page of the CFTC Web site.

Please remember to identify yourself for the transcriber so that we can have an accurate report of today's meeting.

At this point I'd like to also take a moment to introduce our acting chairman, Jim Newsome. Jim has been serving as acting chairman now for, what, seven, nine -- seven, eight months?

CHAIRMAN NEWSOME: Forever.

COMMISSIONER ERICKSON: Forever. And we're anxiously awaiting his confirmation to be permanent chairman of the agency. I'm looking forward to it very much. It's been a real pleasure over the last few months to be able to work with Jim. He's had a steady hand on the Commission, especially in these last few months, and I very much appreciate it.

Jim, would you like to say a few words of welcome?

CHAIRMAN NEWSOME: Certainly on behalf of the Commission, we're -- certainly on behalf of the Commission, we're very pleased that each of you have taken the time out of -- away from home or away from your office to be here. As we've said before, we take these advisory committee meetings very, very seriously at the Commission, and we appreciate not only the time and effort to be here but the wise counsel and advice that these advisory committees have offered to the Commission in the past.

Commissioner Erickson and his staff have spent a tremendous amount of time on this agenda, as many of you have as well, and we anxiously await the subcommittee reports and the dialogue that we'll hear from the committee later.

I've got a small part on the program after the break to talk more about the September 11 situation, and I look forward to getting into information about that, but for this time I just welcome you on behalf of the Commission. Thank you.

COMMISSIONER ERICKSON: Thank you, Jim. Commissioner Spears will be joining us later in the day. His flight has been delayed. The first one canceled, and now he's, I think, due to arrive within an hour or so.

Before we start with the program, let's go ahead and, as we typically do, introduce ourselves again, reintroduce ourselves to the committee and also to our guests in the audience.

Why don't we go ahead and start at the end of the table here, Jeff, and work our way back. MR. BORCHARDT: I'm Jeff Borchardt, with the Kansas City Board of Trade, sitting in for Bob

Petersen, our CEO.

MR. DURKIN: Bryan Durkin, from the Chicago Board of Trade.

MR. WOLKOFF: I'm Neal Wolkoff. I'm the executive vice president at the NYMEX.

MR. GAMBARO: Pat Gambaro, executive vice president, New York Board of Trade.

MR. HORSAGER: Kent Horsager, president and CEO of Minneapolis Grain Exchange.

MR. DAVIDSON: I'm John Davidson, from Morgan Stanley.

MR. FRIESEN: Richard Friesen, of the newly formed Friesen Consulting.

MR. ROSEN: Ed Rosen, partner, Cleary, Gottlieb.

MR. HEINZ: Jim Heinz, managing partner, Marquette Partners.

MR. CONCANNON: Chris Concannon, VP, Island ECN.

MR. RAISLER: Ken Raisler, Sullivan & Cromwell.

MR. BORISH: Peter Borish, senior managing director of OneChicago.

MR. FITZSIMMONS: Bob Fitzsimmons, president, NASDAQ Liffe Markets.

MR. JOHNSTON: Scott Johnston, from the Chicago Mercantile Exchange.

MS. DOWNS: Yvonne Downs, from NFA.

Mr. LEITNER: Tony Leitner, Equities Division counsel at Goldman Sachs.

MR. McPARTLAND: I'm John McPartland. I'm the capital markets adviser to the Federal Reserve Bank of Chicago.

MR. PAULSON: Brett Paulson, Board of Trade Clearing Corporation.

MR. BATTAN: Dave Battan, general counsel of Interactive Brokers.

COMMISSIONER ERICKSON: And now let's go ahead and introduce our first panel. As you know, this committee, at its May meeting, established two subcommittees, and the first that we'll hear from today is the standardization subcommittee, which is chaired by Yvonne Downs, senior vice president for compliance at NFA, and Scott Johnston, managing director and chief information officer at the CME. They've worked over the past several months with subcommittee members Chris Concannon, George Crapple, Rich Friesen, Hank Mlynarski, and Brett Paulson to develop the interim report you all received last week, recommendations for standardization of protocol and content of order flow data.

The subcommittee also worked with several outside advisors, Scott Atwell, Tom Basso, Kip Delbridge, Dan Doscas, Jim Marvin, Tom McCabe, Jim Northey, Mike O'Conor, Joe Sack, Mike Schaefer, and Dino Scouras, and I have the list of names for you.

I'd like to invite those advisors that are also here with us today to go ahead and join us for the discussion at the table at the front of the room.

Before I turn the program over to Yvonne, I'd like to thank the subcommittee members and the advisors for their time and effort in developing the recommendations. I know how much thoughtful discussion went into this and the recommendations, and I hope the committee members have all had a chance to review and take a careful look at this end product. It's quite impressive, and thanks to you all.

Yvonne, go ahead.

MS. DOWNS: Okay. Thanks.

Hi. At the May meeting of the Technology Advisory Committee, the issue of standardization arose. Many of the members of this committee believed that content and protocol standardizations were necessary for our immediate future. Globalization and the convergence of financial products were two such items which were driving forces in this initiative.

I have to again acknowledge many of the members on the subcommittee and the advisors. We had representatives from the exchanges, from the ECNs, from technology providers, or ISVs. We had regulators, we had people from the clearing organizations, and we had representatives from what I call the customer base, the managed futures community. All of their names have either been talked about or will -- are listed in the report, and I'd like to personally thank them for all of their time and effort and thank them on behalf of the subcommittee.

Because the subcommittee realized how important it was to have the opinions from all areas of the financial services community, we also asked for advisors outside of the traditional futures, and to that end we were able to get some people from the bond market association and many of the people in the securities side related to the fixed protocol to assist us in this effort and to look at what's happened in many of these other industries to see how we might address the question of standardization.

In addition, and I have to emphasize this a lot because it was much of the discussion, was that the customers who use our business are looking for ways to go towards straight-through processing, and I know that's an effort that we talked a lot about -- a lot about, but we tried to look at ways to provide standards so the customers start the process, all the way through the end of that process, get the same idea of what the content is that needs to flow from their perspective to do business as well as from the regulatory perspective in capturing the information to do surveillance in this industry.

The subcommittee determined that it had two tasks: One, to determine the content, and, two, to discuss the issue of what protocol standardizations should be necessary. In addition, it was a concern of the committee that we look at the industry to try and get as much industry buy-in as possible, because we all know that to adopt standardization, we have to have a vast majority of the participants on board.

I also need to acknowledge that the CFTC staff participated throughout this process, and they were a great aid in assisting us as we went through this initiative.

FCMs, CTAs, and other users expressed many of their frustrations to the subcommittee over the inefficiencies of having to adapt to several different protocols in their day-to-day operations. Having one protocol for the industry, they believe and indicated to us, it would result in both time and cost savings.

Exchanges and regulators voiced their concerns regarding data standardization. Any protocol to be utilized was acceptable to them provided that it was cost efficient and also that we didn't bind them and kept it as flexible as possible to handle their business issues.

The bond markets and the securities markets have adopted standardizations of protocols in those industries or are in the process of considering them. Several advisors on the subcommittee were able to discuss with us the benefits and the obstacles that they undertook in looking at this issue.

And I won't go through a lot of the body of the report because you're welcome to read it, and it's very long, but there were some specific recommendations in this interim report, and it is an interim report, and we are looking for comments before we finalize it.

The interim report suggests that data requirements should be standardized for the industry. Again those --that's the amount of information that needs to flow and what needs to flow.

The idea of a standardization of a protocol, in other words, how it gets transmitted, was supported. They looked at FIX version 4.3 because it does contain many of the necessary fields, but they were very careful not to recommend a specific protocol, such as FIX 4.3. We are recommending a voluntary move to a standardization, but it's not a mandate.

As the subcommittee realizes the importance of balancing the short-term costs and the long-term benefits of implementing a standardized protocol, we agreed that we should put a target date out there for people to focus on as they continued their technology development. We agreed upon the target date of June 2003. The date was seen as far enough out in advance as to not hinder any particular company's ability to do business but close enough so that it would appear on somebody's radar screen as they were doing systems development. Again this is a voluntary initiative, as the subcommittee recommends that standardization just be an industry best practice.

The subcommittee has begun to gather support from the industry, and we've actually solicited comments from the various industry groups, the FIA, the NIBA, the MFA, and the FIX technology committee and the BMA, so that we could get as much cross-knowledge of industries as we can -- as we can gather. We also have received a couple comments so far on the interim report, and generally it has been favorable, and we will share that with the committee and this group as we go forward.

Finally we are recommending that the Commission support the concept of a best practice for protocol and content standardization. Again as an interim report, we will finalize it with further comments. And at this point I'd like to turn it over to my cochair to give his comments. MR. JOHNSTON: Thanks, Yvonne. First of all, Yvonne both said most everything and also did most everything on this, so thanks to her.

Just a couple of notes. Really early on in the meetings, we talked a lot about sticks and carrots, i.e., should this committee mandate standards, or should it encourage standards, and we got a lot of feedback from both the advisors and the committee members, and I think you see very much a carrot document here, not a stick document. Lots of good information. This report certainly is there to inform and advise, and again it's an interim report.

I know we've gotten some concerns about whether this is going to be a rule or a best practice. Certainly our recommendation is best practice.

Another good thing that's come out of this is a lot of industry awareness and awareness that we need to work very closely with all of the other industry groups that Yvonne mentioned.

So that's all I have to say. Thanks again to Yvonne and the rest of the committee and the NFA guys for putting this all together.

COMMISSIONER ERICKSON: Well, with that brief introduction into the report, I would invite any comments or questions from the larger committee or from the other subcommittee members who are sitting at the table, if they would like to add any other comments or issues.

I would say that this was quite an informative process, especially for me. The group started last summer, and at the first meeting, we had a very thorough report on the various protocols by Scott Johnston, who seemed to have a handle on the different kinds of protocols available in the industry and how they're used and what segments of the industry tend to use those.

And one of the other issues that the committee took up early on -- I think it really is kind of a sleeper issue that doesn't get a lot of attention -- but it was the effort made to talk about the data in common terms and put common meanings to the data that should flow with transactions. I want to thank the Commission staff also for its work in evaluating and looking at what the subcommittee was putting together.

And De'ana Dow headed up a group within the Commission to put forward some recommendations for additional data fields that the committee might consider. I think that potentially is a huge issue for this industry to the extent you end up with information that can be easily moved from one part of the industry, whether it's from the FCM to the market to the end-user regulator and clearing. I think that could be a real boost to this industry, and I thank you all for the work on that.

Any questions or comments? Neal.

MR. WOLKOFF: In actually the first recommendation, I'm not sure if I'm reading it correctly, but there's -- it says an organized market operating an electronic venue should not ration the processing capabilities (bandwidth) of its automated order processing systems in such a way as to create or maintain a market access reference -- oh, am I in the next report? I didn't realize there were two reports.

Here's your microphone back.

COMMISSIONER ERICKSON: Yes, John.

MR. McPARTLAND. I'm just curious as to what is -- what stands between the committee making the formal recommendation as to a preference versus kind of just giving a -- if you will, a litany of issues that need to be resolved. What would have to happen for the committee to feel the sense of -- to feel the urge to do so, and what would have to get out of the way or have to happen before it to accomplish that?

MS. DOWNS: I think the question of what the content should be was something that we had to make sure we captured it from all the different exchanges that are operating and any new ones that we were aware of to make sure that we captured the right data from a regulatory perspective and at the same time provided to customers what they needed both to go into their own systems if they keep systems and to give them enough information to do their business in an efficient and cost-effective way.

The separate question is the how you send that data, and that was a much trickier question, because I think the committee didn't want to endorse any one methodology because of issues such as bandwidth, flexibility, creativity.

So I think that if I could divide this report into two sections, the section that deals with what's the content and what data needs to flow, I think that was a good consensus.

The section with regards to how you send it, while I'm trying to keep as much flexibility in the process as possible, it created questions on how to write that report to make it best practices and not tie anyone down to any one system that's out there.

The other thing that we were very conscious of was to try and make sure that we made this whole concept flexible beyond any one industry.

When we talked to the FIX group, we wanted to make sure that we had the ability to help people who want to do things with futures and equities and that there was a way for that to kind of start to blend together.

The same thing is true of the bond markets and some of those cash situations. They wanted to be able to come up with standards in industry, and we wanted to be able to go across a variety of industries to provide as much flexibility as possible.

So I think that's my take on where the committee goes on those issues.

MR. JOHNSTON: One other thing I'd add is intrinsic in best practice, FIX 4.3, which incorporates a lot of the back office and straight-through processing functionality, really just got finalized, I think it was in August. Tom's here. He can tell me what date that was. So there really is not a practice yet to determine what's best. It certainly looks like that's going to be the best one, but nobody's using it yet, so you can't really say it's a best practice yet.

MR. DURKIN: First of all, I'd like to compliment the work of the subcommittee as well, and I appreciate the clarification that Yvonne and Scott provided today in terms of this being an interim report, because, you know, I think we all agree that we'd like to move ourselves towards standardization, but defining what that is is a huge initiative, and there is a lot that I read into this report in terms of what was being proposed in distinguishing between best practice and was this really going to spin itself into a mandated requirement in terms of moving to a specific protocol.

So I appreciate the clarification that you've given today because I think one could read this or interpret this that we are moving down a path requiring a specific protocol that the industry is going

to have to adhere to, and that can be a very slippery slope, particularly since, you know, we haven't examined at all from my perspective the costs involved in migrating to a specific standard, and I think that we have to do our due diligence before we were ever to go down the path of making an affirmative recommendation in that regard.

So I think that the report as you presented it today is what we anticipated the response to be coming back, and that was doing fact-finding and looking at what's out there in terms of various standards, how the market might react to going to a common protocol, but I appreciate the fact that you're saying today that we're not going down the path of mandates.

I was a bit troubled, I have to say, by the June 30 date that was put out there as well because again when we start talking about dates, then it seems to me that we have made some decision that we're going down a particular path. And so again I appreciate the clarification that I've heard at the meeting today.

COMMISSIONER ERICKSON: Any other questions? Yes, Rich.

MR. FRIESEN: Rich Friesen.

I certainly understand and appreciate the concerns that the exchanges and other financial institutions have over a mandated, fixed standard, especially not taking into account the costs or all the details that need to be taken care of. However, putting this out there as a lightning rod and saying, hey, here is something for you guys to react to, here's something to put in your plans, here's something that you can each tell us what are the costs, what are the dates, and having that available for everyone to talk about I think is going to move us forward.

So the subcommittee certainly had a difficult balance between having nothing to recommend in a lot of mushy language and having something specific and moving towards a mandated process, but I really appreciate the efforts of the subcommittee to create something that everyone could adopt and yet do it on a voluntary basis, so it was a -- it's a real balancing act.

COMMISSIONER ERICKSON: Ed?

MR. ROSEN: Yvonne, you may have answered this question already actually, but I have a content question, which was did you think about the requirements for processing stock futures, including if they were going to be done in compliance with the 34 act regime, you know, 10b-10, instead of 1.35, or did you find that that just -- did you think much about that?

MS. DOWNS: Yeah. We didn't -- we didn't spend a lot of time on that issue in particular, but we were conscious of what the equities world was today, and we did build that into the thought process and got some feedback.

COMMISSIONER ERICKSON: I have a general question. Oh, I'm sorry, Tom.

MR. McCABE: No, please, Commissioner, go ahead.

COMMISSIONER ERICKSON: I've got all the time to ask my questions.

MR. McCABE: Hi. I'm Tom McCabe, and I was privileged to be one of the advisors to Scott and Yvonne's committee working on this initiative, and I think they did a good job under challenging circumstances in trying to bring all the information together and come back with some recommendations to this group.

I think people have to consider what we're trying to achieve in trying to standardize content and protocols. I think the standardization of content makes a lot of sense in that you're sending the same information throughout the order flow process and adding information as it goes along.

In terms of standardizing content, if one of the ends we're trying to achieve is straight-through processing, I think there's a number of different examples today in the industry where straight-through processing has been achieved, even though all those protocols and standards aren't used between different elements.

For instance, a customer today, if I can use an example using the CME system, a customer today can sit outside in his residence or his place of business, enter an order, have it routed to the Globex engine, and ultimately routed back into other bookkeeping, clearing, risk management systems without human intervention, even though multiple protocols are used throughout that process. And I think that happens with the CME. I think that happens with the Board of Trade, as well as some other exchanges. So I think if that's one of the aims of the group in trying to achieve straight-through processing, I'm not sure that a single protocol used in all phases of the order flow processing are required to get to that.

I also think that as we look at the different phases, we have to differentiate that you always may end up with -- you may want to standardize a protocol or an approach on an order flow process but not necessarily communication between a clearing entity and the clearing house.

So I think to take the overall approach to say there should be a protocol across everything I think is challenging. I think that ought to be a competitive issue decided by each element of that order flow process. Additionally look at each part of the process differently. You may find different answers that work as opposed to one use across all of them.

COMMISSIONER ERICKSON: John?

MR. DAVIDSON: Thank you.

Well, I think the committee has really dealt with a very difficult public policy, technology interface issue, and I certainly commend them for that, and I think that they basically came out in the right place, and while certainly there is more detailed work to be done, it seems to me that on the content side, content is appropriately a matter of regulation, so I certainly see some virtue there.

On the other hand, it's also an important component of value add and the ability of different intermediaries to differentiate themselves. So it's not solely an area that's the provision of regulation.

Protocol, I think, from a technology perspective, having a single protocol that does link front to back that is common across multiple marketplaces, multiple exchanges, multiple exchange-like trading venues is very advantageous from a cost efficiency, time-to-market and effectiveness perspective.

Certainly the virtue of FIX 4.3 was the addition of the back office information. FIX started as just being an order routing/indication-of-interest protocol and over time grew to what we have today, which is the entire process or at least what we think of at this point in time as the entire process, but I think that demonstrates the virtue of not having a regulatory mandate of a particular protocol because people's ideas about how to apply automation to the financial services industry do change over time, and technology changes even more quickly than that.

Having yourself a protocol that you can say here is the best practice, everybody work in that direction, is a good thing. Saying that it's absolutely a regulatory mandate and we have to go back to X, Y, or Z to get it changed is not a good constraint upon which to bind yourself, so I think that came out pretty well.

I would say June 30 of 2003 is a quite objective implementation -- excuse me, quite optimistic implementation date, but I guess you don't make too much progress without some pretty good goals.

COMMISSIONER ERICKSON: Yes, Bob.

MR. FITZSIMMONS: I agree with the rest of the committee. It is an impressive report. I think I find myself leaning more towards Bryan Durkin's comments.

Exchanges look for standardization as well, and if their API is too difficult to write to, they're not going to have very many members.

There's a constant tug of war between standardization and functionality. You know, the fixation on fixes, I like to call it, is they -- there are many firms out there, some of them sitting around the perimeter, that would be happy to go into a Salomon Smith Barney or Goldman Sachs and write a FIX message interface into an exchange.

I guess my concern is that the products that we've studied, or the products that were studied by the committee, were really front money products, such as the bonds, notes, and Euros.

And I guess my question is directed to Scott, in terms of the FIX protocol 4.3, I guess we notice two deficiencies in that, and that's why it's really just an interim report, is it doesn't show market depth, and I guess the question is can it handle, say, complex functionality that you would find in products other than in traded products, such as short-term interest rate products? I guess that would be my concern.

MR. JOHNSTON: I'll take a crack at that answer.

4.2 has spreads in it which I think go a long way towards solving a lot of our short-term interest rate issues. Certainly -- I'm not sure if the user-defined spread is in there or not.

Also in terms of the book, there is not a specific implementation for a dynamic book, but there certainly are both auto recording and book updates to get the whole book into the machination.

So it doesn't go perfectly to answer all of our issues, and certainly we have the same issues as you, but it gets pretty close, and that's -- again FIX is extensible where you can define other tags, which - - maybe those aren't 4.3 specific, but maybe those would become 4.4, version 5.0, where you can extend FIX. Certainly you're trapped in what's been defined already, but you and I would have the ability to extend FIX to support the issue of functionality, and our job would then be to make that reasonable and then push that back.

COMMISSIONER ERICKSON: Any other questions? Yvonne, do you think you've got enough to work on for the next few months?

MS. DOWNS: Absolutely, but I would invite any further comments to the interim report, and you can either give them to the CFTC staff, who will forward them to us, or to the NFA or Scott, any of us, and we will incorporate any further changes that we've got and suggestions, and we hope to bring back to the next committee the final report.

COMMISSIONER ERICKSON: Along those lines, I would like to again thank you and echo your comments. I encourage members of the committee to get back to Yvonne or Scott or anyone else on the subcommittee, with your thoughts, and I would like to see the subcommittee be able to go back to work here, and I guess a month or two after the holidays, be able to circulate something that people could look at for a few weeks in advance of our next meeting come, I guess, April or May.

Yes, Tony.

MR. LEITNER: There's an area where I certainly fear to tread because I know so little about it. But one question does occur to me, and that is that given the, you know, internationalization of the market, did the committee look at trends on the development of protocols in Europe and in other markets which are arguably farther along, the electronic, and even moving towards an integrated trend, because they're not so captive to legacy systems as we are. And if you did look at it, what did you learn?

MS. DOWNS: I think that we kind of focused a little more domestically than anything else. Just trying to move into a standardization in this industry was big enough in the United States than to try and get so far that we wouldn't have something that people could put their arms around. So it's a good point. It is something that we'll study further, but right now we just wanted to try and capture what's in the financial services area in the United States.

COMMISSIONER ERICKSON: Okay. Well, thanks again. With that we'll turn it back to the subcommittee for their further consideration and reflection.

Our next presentation this afternoon is the subcommittee on market access, which has been chaired by John McPartland, who's the capital markets advisor to the Chicago Fed here and also the Center for Law and Financial Markets.

John, like Yvonne, has worked for the last several months with subcommittee members, and the subcommittee included Dave Battan, Chris Concannon, Jim Heinz, Scott Johnston, and Tony Leitner, to develop the interim report that was circulated again last week, and that report, for your information, is best practices for organized electronic markets. Blair Hull and Bill Miller also devoted significant effort to this process in their capacity as the subcommittee's advisors, and I'd like them to join us at the table. Welcome.

Before turning it over to you, John, I want to thank you again for your hard work. I know that this report represents extensive and serious discussion of the issue areas and of the four recommendations flowing from your conversations.

Again I hope everyone's had some time to take a look at this and can provide some feedback to John.

And I'll go ahead and turn it over to you. Thank you.

MR. McPARTLAND: Thank you, Commissioner.

I think Blair is expected here.

The gentleman to my left, if you don't know Bill Miller by sight -- we asked for two all-American industry advisors and managed to get both of them. Bill is the chair of the end users of derivatives council. He's the independent risk management officer of the Commonfund Group, which if you're not familiar with that, is a cooperative of mutual funds and investment vehicles for university endowments, and in his former life, he and a couple of other senior executives ran the General Motors pension fund.

Blair -- when he arrives, we'll introduce Blair Hull, but he needs no introduction. He founded Hull Trading Company and sold it to Goldman Sachs.

I'd like to thank the -- my advisors and the other members of the committee. We've gone where I'm not sure others have gone before us.

In order to define the scope of what we were going to do, we needed to define market venues firstly, and the way that we've elected to do that is we've defined three market venues, one being physical, one automated, and one electronic.

Physical market venues are kind of self-defining. It's the continuous auction, open outcry markets in a trading hall where the order flow and the audit trail are largely -- actually completely paper-based, and telecommunications are virtually telephonic.

Electronic markets, at the other end of the spectrum, are completely electronic. They can be manually inputted or computer-generated orders, screen-based trading systems with trade-batching algorithms, and a completely electronic audit trail.

Everything else we've defined as automated, and everything in between, shall we say, is what the committee defined as automated market venues.

And what's important about our report is that its recommendations are designed to apply exclusively to electronic markets. The work that would need to be done to address the public policy issues that surround market access for automated market venues and physical markets would take more resources than the committee had between last summer and today, so we said let's try to do a good job at something that we could manage, and that market venue is solely electronic markets. Save that thought.

I want to talk about the essence of enterprise ownership, and imagine if you will that there are four entities, and those entities are Disney, General Motors, Citigroup, and an organized market that is large enough to have national implications. Were you to be an equity investor in all four of those things, there are three things common to all four.

One is that your ownership right gives you the ability to potentially influence corporate governance by voting your shares at a shareholder meeting, or if it's not organized, it's a corporation, at a meeting of the other owners. To the degree that any of those four entities distribute their earnings externally, you have the right to claim your proportionate share of the earnings. Think of it as the -- capturing dividends for a C corporation.

The third thing that's common to those four entities, and the reason 99.9 percent of people buy and invest in enterprises at all, is you participate in the upward and downward movement of your ownership.

If you own a hundred shares of Disney, you get all three of those things. What you don't get is you don't get to go to the head of the line at the Magic Mountain ride.

If you own a hundred shares of General Motors, you don't get a better deal on a car. You don't get to see what everyone else paid for their car. And if your car needs servicing, you don't get to go to the head of the line at the service department.

If you own a hundred shares of Citigroup, you don't get a better deal on a deposit. You don't get a better deal on a loan. You don't get to go to the head of the line at the teller, and you don't get to see what everybody else paid for their services and their deposits within Citigroup.

So the question then is what makes organized markets so different than other enterprises in North America, and specifically what is the essence of the ownership equity of an organized market that makes it so different within the financial services industry, and the committee thinks the answer is it's largely historic, that there are countless testimonials of executives that have testified before congressional committees, reminding those committees that regulation costs money and that people

need to continuously weigh the public benefits of regulation against the costs that regulation brings with it.

Regulation is more than public sector regulation. There's private sector regulation in the form of rules and market conventions that organized markets operate under, that organized markets have rules. They also have processing conventions. They have bandwidth. They have all kinds of ways that time and place advantage can be granted to classes of market participants, and informational advantage can be granted to classes of market participants. And when we talk about informational advantages, we're talking about content and speed of transmission.

So if you look at how this happened, a lot of it, at least in the U.S., it goes back a couple of decades to when every market was a physical market, and all clients had to have accounts with FCMs. All orders had to be handled by registered floor brokers. All funds had to be segregated. All these things cost money, but presumably they came with a minimum standard of professional performance.

The quid pro quo was we're going to do these things for the better good. They cost money, and that's okay, because the trade-off is there's a minimum standard of professional performance, and the people that use these markets will benefit roughly in proportion to the public costs of what this overhead that's now in the system costs. Save that thought.

What we really tried to do as a committee is figure out what's fair. If you go back to the thought about the three physical venues, I now want them to move, if you will, that if you grant privileged market access for good cause in a physical exchange and the physical exchange now becomes an automated exchange and then becomes an electronic exchange, that the market -- the market access privileges that were granted for a good cause in the physical exchange without review are going to migrate into the automated venue, and they're going to migrate into the electronic venue without a review of the public cost associated with them.

And so the question is, is the performance -- and there's a theorem of presumptive responsibility. The people that were supposed to be performing in the physical venue when the market access privileges were granted in the first place may not even be present in an electronic marketplace, or they may be present in a diminished capacity.

So if you ask the question -- what is then fair, equal, and open access to automated markets and electronic markets -- we elected to look at electronic markets. We found out that most of these market access privileges had their origins in physical markets, and so we said, well, you know, where we'd really like to end up is that some structure should be brought to a process so that when there are market access privileges and informational privileges granted to exclusively electronic markets, somebody should try to figure out how much these cost the public and whether those -- whether those market access privileges are roughly proportionate to the benefits that could be derived.

That being said, that's the overview of what we did, why we did it, where we came from, and why we thought market access privileges came to be in the first place.

What I'd like to do is -- this report has four major sections -- is go through them and share with you the views of the committee and then come back and discuss them as -- one at a time with the members of the full committee.

Bandwidth, order eligibility, and flickering quotes. There are markets -- actually let me -- let me jump ahead to kind of give you a flavor for what the committee's thinking was.

In general the committee was of the opinion that bandwidth should not be constrained. If you have to charge more money to get more bandwidth, charge more money to get more bandwidth, but don't throttle orders, okay? The best way to -- the best way to charge is to charge those market participants whose quotation to trade execution ratio is higher than others. That is to say there's a hundred quotes. They only do one trade. Charge them more than the person that puts in four quotes and actually does a trade.

But the consensus was that a marketplace that charges for bandwidth and doesn't experience order queuing in their order entry system is a better organized market than a marketplace that doesn't charge and routinely experiences order queuing in the order entry system.

That being said, we touched on another -- on issues within the section of bandwidth, order eligibility, and flickering quotes.

Recommendation 1A, an organized market operating an electronic venue should not ration the processing capabilities of its order processing systems in a way that would create or maintain a market access preference for any market participants or class of market participants.

There are organized markets, at least automated organized markets, that do this, that, completely ignoring what the order flow is right now, they say 80 percent of my bandwidth is going to go to this class of market participant, and 20 percent is going to go to this market participant. Or they say I've got bandwidth of this much, and I'm going to let 20 percent of these orders for people that are yellow to go at twice the speed of people that are green. We're basically saying that's not good public policy. Let everyone's order try to get to the order book at the same time. From wherever it came, let it get to the order book at the same time. Don't create -- I talked about informational privileges. It's content and speed of transmission. Don't determine that one class of market participant by definition of their market class gets a better speed than another class of market participant. That is basically what recommendation one is.

Recommendation one is tempered by credit controls. We know that organized electronic markets have credit controls, and that's going to slow things down. We're not naive enough to think that it's not going to happen. So what we're saying is that if you determine a transmission point to probably where the credit controls start, that everyone should have the same speed of going through an order entry bandwidth.

Recommendation 1B we touched upon, that an organized market should have the operating capacity to operate their markets even on remarkable days without noticeable and significant system processing degradation.

And a quid pro quo for that is if -- that costs money. Again we're not naive, but if you think that -- if you look at the non-U.S. organized markets model, it's a lot more electronic than the U.S. market. I mean one can make an argument that open outcry's alive and flourishing in the United States, but it is allowed to be flourishing in the United States. And there's about four other continents where it's not, so it's reasonable to assume that more and more markets will migrate from physical markets to automated markets to electronic markets. What we're saying is get ahead of the ball and inaugurate some fee structure so that you can recapture the expense of providing a bandwidth that doesn't fall down and stumble on a remarkable day and charge the people that use it, but don't do nothing. That's basically what this recommendation is.

Queuing. God help us a lot on queuing. The order queuing really needs to be time-based, first in, first out, that even a marketplace that has the broadest bandwidth that it can possibly have on some day is going to get clogged up, and so there has to be some kind of a queuing device so that orders don't get to a place where they can't be processed.

By placing the queuing mechanisms as far as possible from the order book, if you push them out to the client as far as you can, then it is more likely that the client will realize when the queuing algorithm is operating and when it's not. The trader needs to know when part of their orders are being queued up in an order queue. They also need to know when the order queue isn't operating, and it's more likely that they're going to get that information and get it faster if you move the queuing process away from the order book from a technology perspective.

I'm up to order eligibility. There was unanimity among the members of the subcommittee that organized markets should not discriminate on the origin of orders, that whether an order is entered by a human being or whether it's entered by computer or five years from now if it's entered by something we've never even thought of yet, that that should not affect the process of an order routing system -- there should never be discrimination of the processing of that order based on whether it was computer-generated or whether it was manually generated.

Recommendation 1D is reasonably similar to that. It shouldn't ration or throttle processing bandwidth by establishing or maintaining restrictions on types of orders or class of market participants.

This goes a little further than solely class of market participants or solely whether the order is created by computer or a human being. This goes to whether the order is a stop limit order, a cancel/replace order, you know, that none of that should determine how fast that order reaches the order book, that it needs to be fair and equitable access to electronic markets.

The second major area where we decided to go was into block trading and internalization of order flow. We determined that we couldn't possibly do this without an example, a reasonably detailed example, and so we had to create one.

In general the subcommittee was uniformly of the position that block trading is good, that it brings orders onto organized markets that were otherwise trading elsewhere, and by doing that, it improves the transparency of that market. It certainly adds to the liquidity of the market and provides revenue.

Those trades become part of an audit trail, which they otherwise would not. They become subject to the rules of the exchange and to the federal regulations that operate and likely benefit from all of the benefits which we all know that are derived from the clearing process.

That being said, they are very, very different kinds of orders, and so we covered a couple of different facets of block trades. One is minimum eligible quantity. We tried really hard to come up with a not unreasonable definition that an organized market could probably quantify, but basically it needs to be big enough to be difficult to process and not big enough to be remarkable, that anyone who's a reasonably good trader should have the expectation that if it's this big and you put it into a marketplace at that product and that venue, that the average price that you're going to get is going to be uncommercial when compared to the cash market for that product or that it's going to be disruptive and unnecessarily so.

Probably the most discussed part of the recommendations is what to do with resting orders in the order book, and where we came down on that -- I hope that you've had an opportunity to review our example. We talk a lot about the difference between disclosed orders and undisclosed reserves, okay? Undisclosed reserves -- I hope you know what they are. They contribute a lot to liquidity and don't do anything for transparency. They're hidden. In other words, I have a hundred to sell. Behind that I've got a thousand to sell. The thousand never shows up on the screen.

Our recommendation is that the execution priority should go with those orders that provide both transparency and liquidity, and those orders are disclosed orders in the order book, resting disclosed orders in the order book. And so when -- a part of the process of executing a block trade is there's a potential for price improvement, and so the issue -- the critical issue is who gets the price improvement? Does the block trader get it, or does the resting orders get it? We came down on the side that the resting orders get it because the resting orders actually contributed to the price transparency of the organized market. The block trade was never in the book, and the block trade actually contributed nothing to the price transparency of the organized market.

So in our example, I'll try to run through it quickly, you have a market that's 24, bid at 25. There's a very large sell order. Anyone with half a brain knows that that order is going to take the market down to 20. Our recommendation is that the resting bids at 24, 23, 22, 21, and 20 all get filled at 20, that they get filled at the better price. That way the block trader gets what he or she probably wants, which is a one price -- one price, one quantity ticket to write, and the traders that actually were mostly at risk for the greatest period of time and created the only public benefit, that is to say that their orders were out there as part of the displayed order book for some period of time before the order went through, benefit from the price improvement.

To do otherwise, by the way, would be that you would get run over every time. A resting order would always get run over. If I were a resting bid at 23 and the market goes to 20, I have an instantaneous three-tick loss, and it was caused by an order that was never even in the order book. If you think that's great public policy, you haven't served very well on our committee.

Perhaps what is controversial is prompt trade report, that after the trade is done, we believe that a public service that organized markets do, and usually do well, is they provide price discoveries as to what a fair market price is for all their products, and that transmission goes to everyone who's

looking at the market at the present time, that is to say active market participants. But all kinds of commercial enterprises use markets derived by organized markets.

Our recommendation is that the FCM that internalized the order has 90 seconds to transmit the -- that a block trade was done and basically that there are three elements of that transmission. One is the time at which it was done, the quantity, and the price at which it was done. In our example it was done at -- it's 5 million notional principal. It was all done at 20, and whatever the time is.

Some people attach importance to the identity of the FCM or the identity of the ultimate customer who did the block trade. Quite frankly, we don't think it's anyone's business, that in our example, because the trade is internalized, the FCM's the buyer, the FCM's the seller, most trade matching systems send a confirmation out to the buyer and seller, so the only person that's going to get that transmission is the FCM. We don't think the identity of the FCM is anyone else's business, and if that is why other people seem to think that there should be an appropriate time delay, it's the price that's important. It's not the identity of the market participants that is important. Just strip the identity of everyone away, and let the price go through the quotation system.

The entirety of our example for block trading assumes that there are not concurrent competitive markets for the same product we wrestled with what kinds of best practices would actually be appropriate to handle a block trade if there were multiple markets and fungible products, and basically we said that it would be pretty damn hard to do that. But history shows that it's pretty rare that that is the case, that there tends to be one market that dominates, and there simply aren't -- over a long period of time, there typically aren't that many products that trade concurrently here in the same time zone as fungible products. I guess that's another way of saying we don't have a best practice recommendation for exclusively electronic products, trading fungible products, trading in the same time zone.

The third section is price transparency. Recommendation 3A goes to the content of the order book. Organized markets operating electronic venues should display the order book for all products to all market participants without any preference to market participant or class of market participant. If the organized market only displays a portion of the order book, the portion of the order book that is disseminated should be disseminated uniformly and made available to all class of market participants without discrimination.

Again, that is where the market is. If a market shows prices five up and down, all classes of market participants should have access to the same information and implicitly at the same time.

Post-trade execution. Organized markets operating electronic venues should not disseminate price or price and quantity information with preference to any market participant or class of market participant.

This doesn't seem to be a problem because of the way quotation systems work today. It's a whole lot easier just to blast quotations out the back door.

The last paragraph of this section is actually important, though, because organized markets have every right to charge a premium price for real-time quotes and a lesser price for delayed quotes, and

they have every right to charge classes of market participants different prices, say member, nonmember, commercial, international, whatever. That's not the point.

That's not at issue. What is at issue is an organized market should never decline to sell its quotations to a given class of market participants at any reasonable price. That is to say I'm going to give post-trade information to this class of market participant at a price, and even though this class over here wants to pay a not unreasonable price for the same after-the-trade quotations, I'm not going to sell to him at any price.

Our fourth section is market makers. In general the committee was of the opinion that market makers are extraordinarily valuable in establishing liquidity in emerging products.

Most of the issues that arose in our discussions with market makers are when the market maker structures violate the time/price paradigm. That is to say most but not all of the committee members were of the opinion that financial incentives alone should be sufficient to get market makers to stand there and make a market when otherwise others would not.

The opinion of all the members of the committee is that market maker structures should not become a perpetuity, that there needs to be a reality check of when sufficient market liquidity is established that the market maker structure is appropriately dismantled, and there are some examples where that has not been the case.

Recommendation 4A, organized markets should not operate any order processing system, pass any rule, or allow any order processing conventions that would otherwise preclude any market participant or class of market participant from entering simultaneous two-way quotes.

That is to say organized markets should not create artificial barriers to entry that basically shield market makers from competition. One way to provide a reality check is to when a market maker's useful life is in the autumn of its life cycle is if people want to compete for the same -- the same space, the same time/price advantage that they seem to have.

Recommendation 4B, an organized market operating an electronic venue should not, other than unusually illiquid circumstances, provide privileged market access to market makers by violating the time/price paradigm within the order book. Under no circumstances should any class of market participant's orders be allowed to violate the time/price paradigm other than orders of market makers.

Actually we covered this, that in most circumstances financial incentives, which could also extend not only -- okay. Remember we're talking about purely electronic marketplaces, so there's ample opportunity to do this within the venue of financial incentives. There's clearing fees. If an organized market were to accept our other best practice on bandwidth, there would be a sliding scale of bandwidth charges. It is logical to assume that a market maker could be in the upper echelons of where that sliding scale would take it.

So there are ways of cutting the fees, the bandwidth fees. There are all kinds of financial incentives that should be available to provide an incentive for market makers to stand there and make a market

where others might not be willing to do so.

Recommendation 4C. The presence and continued rationale of market maker structures by product should be reviewed with a frequency that automatically increases as market liquidity in the relevant product increases.

Not the passage of time, but when the liquidity in the product increases, it's commonsensical to say, well, these people are providing a service. That service involves a public cost that enters a market into that space. Is the benefit that the public is getting from that service still warranted, or is the liquidity in that product/venue sufficient to dismantle the market structure and make the public costs go away. That recommendation is basically that review should be present, and the timeliness of the review should be a function of the generation of liquidity.

Recommendation 4D. Recommendation 4D is really a function of the presence of recommendation 4C, and that is if an organized market doesn't seem to be reviewing the permanence of market maker structures with the periodicity that otherwise makes sense, one way to accomplish the same goal is you say, okay, when we started trading pickle derivatives, we traded a thousand a month, and the market maker was held to a ten lot. He had to be good for a ten lot with a two-tick spread.

Today the market in pickle futures is a hundred thousand. That's two orders of magnitudes increase. You used to be held to a ten lot. Now you're held to a ten lot times two orders of magnitude, a thousand lot. If you want to remain a market maker, now you got to stand there and make a two-tick market.

One way to provide a reality check as to whether a market maker structure is really necessary or whether the purpose of a market maker structure is really to perpetuate a tariff on order flow is to increase linearly the risk that they have to assume to engage in the business of being a market maker, and if you tie that risk to the liquidity that otherwise develops at some point, the market maker themselves could say I'm out of here. This puts me at the wrong place on the risk/reward curve where I want to be.

There's one last conclusion. 4E. I'm sorry. We actually covered 4E. That's what I just did.

4D is there needs to be some reality check on the minimum quantity for which order -- market makers are held, that being held for a quantity that is so minimal as to be valuable, that the return -- the return on capital -- or the risk-adjusted return of being a market maker should be a function of the risk that they assumed, and if you're only held for a one lot, your revenue or the revenue that can be derived by your time and place advantage given to you by the marketplace should be linearly proportionate to your risk-adjusted return on capital.

So if you're really going to assume risk, you're entitled to make a proportionate amount of money. If you're going to stand there and pretend to assume risk and assume a revenue stream that is disproportionately large, then by definition the public costs of the service that you're providing are far disproportionately large to the service that you didn't provide.

I'm finished with four. What I'd like to do at this point is ask the industry advisors and the members of the subcommittee if they severally have any comments to make, and then we'll go back to this.

Go ahead.

MR. MILLER: Good summary, John.

MR. McPARTLAND: Tony.

MR. LEITNER: A couple of points. First of all, John, thank you very much for your leadership in this committee. And I think that John has generally accurately put forward that this is a consensus document, but that's not to say that the discussion around many issues were not lively and that there aren't a lot of potentially controversial points underlying this, and there are, and I think that we on the committee would welcome comments on many of these, which I think we'd look at as certainly aspirational goals.

The second comment I would make is to second the point that John made very well, though, and that is that context is everything here. I mean we're talking about all electronic environments that are the primary price discovery venue and that are liquid enough so that the various recommendations kind of hang together around that assumption. If those assumptions aren't true, then a lot of the recommendations sort of don't work.

So, for example, a nascent market or a market coming into being for the first time has to experiment and, you know, start out with a liquidity provision, and that may mean incentivizing market makers to make markets and to have the risk/reward ratio that John talks about in a more conditional sense. Maybe absolutely justified.

I think the good part about the report is to suggest that the current incentives that tend to become legacies within the market, that sort of market, that hopefully the exchanges will be in a position where that can be reviewed so that in a truly liquid environment, the need for preferencing in terms of either participation in order flow or informationally would tend to disappear.

The block trading issue I think is also potentially controversial, and we did not have on the committee a lot of traders, and so I think that our views are informed by conversations with people and so forth, but there clearly emerged the point that -- there's a little bit of inconsistency in the report because -- to the extent that we really would prefer an environment where the block is displayed, and the market gets to participate in it, and then we spend the rest of the time justifying why a block trading rule is actually good.

So there is a little inconsistency, and our particular approach to how it should be resolved is, we thought, the best and fairest, but from an aspirational point of view, there may be underlying markets where the liquidity of the underlying market is such that that particular outcome would disadvantage, either the buyer or the seller or the firm paying capital to the trade. So I think we ought to be interested in comment on that particular point.

And finally to reemphasize that again these recommendations hang together because we only have one center, which is in fact the case with the futures markets generally, and I just make the point that it would be an interesting laboratory to see about the trading of single stock futures since as -- at least as I understand the proposals of the various exchanges -- we will have three very different approaches to how the product should be traded, ranging from potentially a floor-based system to a fully electronic sort of open access type environment. Although I think that the sausage is still being made there, it would be interesting to see to what extent any or all of our recommendations come into play.

MR. McPARTLAND: Scott?

MR. JOHNSTON: This is a really interesting panel for me to be on, and hopefully exchanges who have their eyes on the OTC market and other big capital markets players who serve as customers, both in the OTC side and the futures side, see a lot of interesting issues here. I can verify that the discussion was lively, so hopefully we'll hear more of that again. This was an interim report designed to generate discussion. I certainly participated in it. I thank John for doing a great job.

I just know that the CME certainly believes in both competition amongst exchanges both here in the U.S. and abroad but also competition of regulated versus unregulated markets, like OTC markets, and when I talk about OTC markets, I'm not talking about the NASDAQ market. I'm talking about the swap market or the FX spot and futures market or OTC energy markets. I think there's a lot that futures and other derivative exchanges have to do there in the future.

So read this. We're certainly looking for your comments. We had a great discussion.

MR. McPARTLAND: Chris.

MR. CONCANNON: The one issue that I struggled with in the report was, of course, the block trading issue. I think there's one important thing to point out when we covered that issue, and you'll see it in the report. Although we lay out this strict rule of how to handle a block that is brought to an electronic market, we also talk about options and that a seller of a block can also access the market directly, or the FCM acting as its agent can access the market and fulfill its obligations -- agency obligations -- and hand the price improvement to the block seller. So it's important to point that out in the report because I think that will be a controversial issue.

MR. McPARTLAND: Jim.

MR. HEINZ: As Tony mentioned, I'm probably one of the few traders on the committee, other than Blair Hull, so I think in each one of these bandwidth, block trading, transparency and market makers issues I or my firm has been involved with all of these issues, and that was my contribution on the committee.

I felt a lot of the work that you did, John -- I want to congratulate you. It was a great job in writing this report.

A lot of these are, in my feeling stronger than aspirational. I think there are some good suggestions, some solid suggestions that everybody should think about and discuss now or at another point in time.

But just to conclude, I thought, John, you did a great job, and I thank you for your contribution on this committee. It was a tough task to put this all together, and it was, I thought, pretty eloquently presented today, from my point of view. Thank you.

MR. McPARTLAND: What I'd like to do now is go back and cover the four points if we might. The first one was bandwidth, order eligibility, and flickering quotes. Are there questions or comments from members of the committee on that particular section now that it's been explained once?

Neal?

MR. WOLKOFF: Thank you. I wasn't sure I'd get the microphone back.

My discussions -- thank you very much. A very generous act on your part, Mr. Commissioner.

The recommendation regarding equal market access, certainly in the case of processing, I completely agree. In the case of bandwidth, I do have some questions, and I think some of it is borne out of our own experience.

We had an electronic trade system, NYMEX access, that has been, or had been for a number of years, a frame relay system. So the market's access to the order processing host was on an equal basis, and that equality was actually guaranteed by contract by AT&T.

At a point we decided that the exchange itself was bearing too much of the cost of the network, and given the advent of other technologies that we believed would allow Internet access to the host on an equal footing, that we would head in that direction. And while we were planning the conversion of the system to something that was Internet-based, we began hearing a lot of feedback from various customers who wanted other types of bandwidth connections and had visceral mistrust for the variances of the Internet and the variability of orders actually reaching the host.

So there were requests for direct T1 connections between the customer and the host and requests, of course, that we not abandon the frame relay network. We were dealing with all of those, and there were a lot of discussions internally about equal access and the like. The whole discussion, I guess, took on a very moot characteristic when the frame relay network -- before we had actually made the conversion or intended to -- the frame relay network, we learned, was actually located almost entirely under the World Trade Center.

In order to keep an electronic trading system going and to bring the business back following the terrorism, we brought the system up as an Internet-based system. So presently we have that system, and it is equal ccess, but it's equal access because the decision was essentially made under extreme circumstances.

Interestingly -- having taken what I think many would consider to be the lowest common denominator network decision using a private network -- we haven't had complaints at all about the speed of transmission of orders. In fact, the volume is up. It's been very, very well received.

But just going back to this point, it seems that in a way you're forcing by a best practice exchanges that have electronic systems to either choose the lowest denominator or the highest denominator because there will invariably be trade and FCM customers who do want the best bandwidth connect. They have a mistrust of the Internet, -- although I think that the variations are extremely slight. Traders will suggest or will state that there are benefits to having a consistent T1 connection.

So the concern I have is that the recommendation does take away a certain amount of market user choice and that there are market users that actually don't really care about the variability and would be perfectly content even with the existence of tiered bandwidth to take the lowest level if that cost structure reflected the lowest cost. And so the CME's Globex, and I believe the eSpeed platform, offered those various alternatives, and one doesn't really hear customer complaints about it.

Now, again, we do not have a variability in that, so I don't have the experience with it firsthand, but it does raise questions in my mind about whether or not you're requiring customers to incur a level of cost to have the equality that the customer itself really doesn't find necessary, and I think probably it isn't even particularly borne out by the law of physics and the law of averages on how these networks generally work.

MR. McPARTLAND: Thanks, Neal.

The market chooser choice is a facet that we didn't address and perhaps should have. That's what we're trying to get at in 1A -- let me address your issue. If I can guess what the consensus of the subcommittee would be, it would be for all classes of market participants that uniformly elected the Internet, that they should uniformly have their orders travel at the same speed. For all market participants that elect a T1 line, they should have the same speed.

What we're trying to say in 1A, and perhaps it's not specific enough, is that a market shouldn't intentionally throttle the incoming orders of a class of market participant, or, say, my bandwidth is only this big.

I am going to reserve 20 percent of it forever for a particular class of market participant, notwithstanding what their orders are right now.

I understand that -- I appreciate the comment. We need to go back and clarify that we're not saying everyone has to move at the same speed given the telecommunications choices that they themselves have made. Along the spirit of what is fair, equal, and open access to electronic markets, it would be that all classes of market participants that make the same telecommunications elective should travel at the same speed.

Members of the subcommittee? Yes? Okay.

MR. JOHNSTON: Can I help clarify something?

MR. McPARTLAND: Scott.

MR. JOHNSTON: Do you have a microphone?

All right. The other definition of bandwidth, and we spent a little bit of time on this, is the rate of orders per second that you can put into the system. There's telecommunications bandwidth, and then there's matching bandwidth, and we kind of bunched the two together. And so the recommendation here is that nobody gets anything different.

Let me just say the counterpoint to that again is that exchanges need the ability to allocate costs and benefits, rights and obligations to different people to provide either liquidity or other functions of an exchange. Bandwidth may or may not be one of those resources that are allocated.

Now, Patrick Young, I think people saw the outline in his book, I think the first chapter has everything to do with bandwidth and it being a scarce resource and the bandwidth of an exchange going to be kind of a commodity in the future. I completely agree with that sentiment, and again we discussed this a lot. Scott and the CME's view was that that's definitely a resource that you cannot perfectly plan for. Therefore, you cannot guarantee that you always have bandwidth to support any particular market event.

MR. LEITNER: This is one of these recommendations that at this level becomes aspirational because again if you are talking about a market that justifies, for the reasons we think are justifiable, a market maker structure, then that function may deserve more bandwidth and, therefore, be a sort of exception to the rule. So many of these things in fact have exceptions when you change one aspect or another of the assumptions about the market.

But that said, I think Neal's point is a valid one and that the subcommittee should consider: how to bring that aspect into its recommendation to clarify what we mean by that, because I would agree essentially with John's point. But I think we also need to better outline how interrelated these recommendations are to the paradigm of the market that we're talking about and how changing one thing on one side may in fact affect recommendations made elsewhere. We should at least think about that.

COMMISSIONER ERICKSON: John.

MR. DAVIDSON: I think as I understand the report, you're advocating open and flat markets, which is certainly a position I could endorse. I have sort of three questions or concerns about things that it's not so clearly considered.

First, further on this issue of bandwidth, given the laws of physics restricting travel roughly through the speed of light and the fact that bandwidth is not instantaneously infinitely expandable, it seems to me at some level or another, you have a bias based on geography that's inherent in a system. We observe that in existing electronic systems, so that whether you are in the same town that the server -- the host is in or whether you are at a town away from that location does actually matter in the

performance of your trading. So I would think you could get back to the old situation in a trading pit where notwithstanding the fact that you're in an electronic market, geography of a different type matters.

Second, you talked about the priority for orders and suggesting that they not be discriminated against. I wondered if you talked about or discussed the priority for cancellations, that is to say canceling an existing two-sided quote.

You recommend, with respect to market making, that market makers only be compensated economically. I would suggest that the risk of adverse selection is very difficult to compensate for economically, at least in terms that most people are willing to pay. Consequently having a priority for a market maker canceling a quotation might be in the public interest.

And then finally, I wondered whether you considered real-time quotations being a public good as opposed to a private good, and if they are a private good, why is it that they're owned by the market center instead of the provider of liquidity.

MR. McPARTLAND: I'm not sure that I understand your second point, John. Are you suggesting that a market maker order, to cancel/replace a two-sided order, should be processed faster than or should travel through an order entry bandwidth system faster than any other order of any other market participant?

MR. DAVIDSON: I didn't say cancel/replace. I said a straight cancel, and I said did you consider whether in the sorts of peak volume chaotic markets that you suggest are the most challenging to bandwidth and the one time when queuing does come into effect, whether there might be an interest in having cancellations go to the head of the queue as opposed to sit at the end.

MR. McPARTLAND: I would -- we can go back and discuss that. My guess of the consensus of the committee is to not distinguish one class of market participant over another.

In particular there is some misgiving of time and place and informational advantages that market makers already have. That is not related so much to bandwidth but the perpetuity with which they seem to exist.

So if your comment that a simple cancel for a market maker somehow has intrinsically more public good attached to it than a cancel order of any other market participant or an open order of another market participant, my guess is that the consensus of the committee would be contrary to what you've put forward.

MR. DAVIDSON: Would cancellations by any market participant take precedence over new orders by any market participant?

MR. McPARTLAND: Yeah. I --

MR. LEITNER: John, isn't the simple answer that -- to John's question is that we didn't discuss it?

MR. McPARTLAND: Yeah.

MR. LEITNER: Number one.

Number two, I'm not sure myself, you know, because I think you're raising a good point.

First, assuming the flat structure that we're talking about, -- and no market maker preferences, we take that out of the loop -- should there simply be a recommendation that that is an exception to the head of the queue, that an exchange can modulate the queuing priority so that in a market stress condition, which the market center itself has the ability to declare, that it then changes the queuing order. I don't know.

I mean it seems to me that markets have got to do what their participants consider to be in the best interests of the marketplace, and so my personal view is to be cautious about being too specific about these things because of the nature of the derivative, its relation to the underlier, and so forth. But I think it is a topic worth reconsidering.

MR. FRIESEN: Hi. As a former market maker on both the futures and the securities side and also having designed an electronic market system that's both flat and open, I think the point of the committee here is that if you have political structures or artificial barriers that prevent people from coming in, it's going to be a very challenge for those exchanges to survive in a global economy where pressures from the customers are going to demand more access and more information. However, as they demand more access and information, at some point, if I look at myself as a customer, I'm going to be willing to make some trade-offs.

You know, if I can get my 10 or 20 lot off immediately, get an immediate report, I might not care about the market maker who's looking at 30 different variables and changing his quotes on a twitched basis. Who, in fact, has the adverse selection problem i.e., as soon as he's wrong for a minute, some large customer comes in and slams him, and, therefore, he can't really make a tight market. I'm willing to make a trade-off on real market values that aren't artificial, and the details of those I don't think we're going to be able to determine here. But what we can say is we can't have artificial political structures that defend market makers to larger profit margins than they would get normally. But how far I as a customer am willing to make trade-offs to that market maker to provide real value for me in the form of liquidity or other volume facts I think is going to be a marketplace phenomenon, and the exchanges and the market makers are all going to have to decide that.

So as long as we're not politically prevented from being more competitive, I think that those details of solutions will come out in the marketplace.

MR. ROSEN: I'd like to come back to the bandwidth. Just two minor points. One is I think a corollary to the observation that Neal was making and also to John's point is that where you have markets, say, with a lot of price injection or automated order generation capacity, given how expensive bandwidth can be, there are firms that would be willing to throttle back their price injection engines in time of congestion rather than having to pay for all of the overhead that's

associated with even meeting -- avoiding congestion even when you're in tail periods of market volatility. Therefore, I think consistent with the thrust of the recommendations, I think, allowing market providers to provide sort of nondiscriminatory means of rationing capacity -- or bandwidth rather -- is probably consistent with your objectives and I think provides for flexibility.

The only other point is that -- is something of a quibble in that the recommendation -- the commentary on the recommendations would suggest that in order to buy sufficient bandwidth, be paid for by the consumers of bandwidth, and I think generally that may be true, but there may be significant consumers of bandwidth that do that in connection with a provision of a service, like liquidity through market making, through price injection or something of that sort and that, therefore, you might not want to charge them. You might want the rest of the market to bear that expense, recognizing the benefit that's being provided.

MR. McPARTLAND: Okay. If I could comment on your second point. I think that we actually covered that in a footnote in the market maker section, that one of the financial incentives that can clearly be provided to a market maker in a purely electronic environment would be to waive or diminish the sliding scale that would otherwise be associated with the activities of a market maker. That market maker, by definition, would have a high quote to trade ratio, to just scale it back and basically give him a pass or a partial pass.

John, John Davidson, can I come back to your third point? Your first point was the geographic limitations. The second one was cancellations. Can you give me your third point again?

MR. DAVIDSON: The third point was with respect to quotations, did the subcommittee consider whether they might be a public good rather than a private good? And if they are a private good, why did you conclude that they were the property of the market center as opposed to the provider of liquidity that generated the trade or generated the two-sided market, which the quotation then was sent out to the rest of the world? And this is real-time quotations, not 15-minute delay.

MR. McPARTLAND: I understand.

Yeah, the subcommittee will go back and look at that. There's clearly some differences between the way the securities world operates and the way the derivatives world operates, and to do that properly ...

MR. BORISH: I know we're short on time based on the agenda, and normally when I get something like this and I see all the small print, I sort of just say I'm going to wait for the video.

But in my new capacity and reading this very closely, I just have one question, which is how many exclusive electronic markets as this model is based on currently exist?

And then going back to your opening statement, which is you took the three stock -- you know, GM, whatever, it seems to me that one of the things that you've added in here, which is if I was a VC in any one of those companies, you're basically saying when you make X profit or you get to a certain level, you're mandated to sell and that this is predicating its entire argument on the basis of success. And we know throughout history many new products, many new exchanges, many new

contracts on exchanges fail, and it seems to me that it should be up to the VC to decide, whether that's a market maker, when to realize it's your turn, rather than some external forces say, okay, you've made enough money. To me that's not the way the system works.

MR. McPARTLAND: I think the consensus of the committee with respect to market makers is that they are entirely beneficial in a point in time and that as liquidity develops in and of its own right by natural forces, the periodicity with which the permanence of the market maker structure should be reviewed should increase. That's because the public costs associated with perpetuating a tariff on order flow vastly exceed public benefits at that point in time.

I think everyone on the committee agrees that the cumulative risk-adjusted return on capital of a market maker needs to be appropriate. Otherwise they're not going to stand there on quiet days when they could be trading something else and that the analysis --

MR. BORISH: But who's to decide what's appropriate? I guess that's my question.

MR. McPARTLAND: I would say the organized market. Yeah. I mean the organized market is subject to some review -- there should be some process that could be reexamined after the fact that there were 142 products that have market maker structures, and with some periodicity that seem to be appropriate and seems to be related to the liquidity in those products, they were reviewed to see if the market maker structure should appropriately be dismantled or whether it should appropriately be continued, and --

MR. BORISH: So the market maker then in all the winning -- the loser ones, does the market maker in 140 of those fail, and the two that are successful, you're going to say, well, that's okay. So why would a market maker --

MR. McPARTLAND: Oh, no.

MR. BORISH: -- come back another day?

MR. McPARTLAND: I'm sorry. The criterion for whether a market maker structure should be dismantled is not related to the return on -- the cumulative return on capital of the market maker. It should be a function of the liquidity of that product, that once the market otherwise develops sufficient liquidity, why is the market maker there anymore.

Market makers cost money. It isn't the function of whether they were on the right side of the market more times than not. That should not be the criterion. The criterion should be whether liquidity has otherwise developed naturally in that product, and if so, then the question that needs to be asked is whether that market maker structure should be continued.

MR. BORISH: Well, then the marketplace would circumvent its trading --

COMMISSIONER ERICKSON: Hold on. We are running about 15 minutes behind, but -- and maybe we can get that clarified during the break here if we could. And, Ken, do you have --

MR. RAISLER: I don't intend this to be the final word in any sense, but I guess I'd like to pick up on Peter's point and broaden this discussion.

I find -- and maybe I'm a little bit alone in this -- but I find this undertaking to be of concern to me. That is the idea of trying to develop a best practices for organized electronic markets to me is troubling, and I think this discussion highlights it in my view.

I think a lot of people around this table or around this room worked hard in the Commodity Futures Modernization Act to open up for competition to markets to allow -- and I think Rich made this point a little earlier, that is competition will drive the markets. I think that's the philosophy that was perpetrated in the CFMA, and as an advisory committee to the commission, I think it's very important.

At least I put on the record here the notion that I wouldn't want anything that's said today to in any way limit what I think is a terrific opening at the CFTC to flexibility and to nonprescriptive approaches to new markets, because I think what we've learned and what the philosophy behind the CFMA was is that we've historically had monopolistic markets, that competition will promote and competition in electronic markets around the world, because of the ease of entry into those markets, will promote the healthy market and that making suggestions for best practices, which may in an individual market be something that a market might want to elect to take on because it works for that market, is the wrong approach for a government agency or even a committee of a government agency to be recommending, and instead what we want to do, I think, is look at how these markets evolve, and over time markets that are successful will be copied. Markets that fail will probably not.

But that to make suggestions as concrete as the ones that came out of this report I think for at least my perspective is the wrong direction, and I certainly hope it's not a direction that the commission embraces in the new market applications that they're going to be reviewing and are reviewing at the present time.

COMMISSIONER ERICKSON: Okay.

MR. MILLER: If I could --

COMMISSIONER ERICKSON: Yes, Bill.

MR. MILLER: -- I'd just like to take the other side of that from the perspective that having been as an end user for an extended period of time and now being with the end user group's council of the AFP -- it's an association of about 14,000 end users, and most of our end users are corporates, treasurers and the like, and we have experienced a number of electronic systems being introduced. AFP has introduced a couple.

I think what the subcommittee has attempted to do is to put forth a template which I think jump-starts us to a level which I think we as end users would like to see as close to an end point, but, you know, as the markets evolve, that end point can fluctuate, but it sets a good tone for where I think

we would like to go, without having to do all the trials and runs that we've experienced over the past several years.

COMMISSIONER ERICKSON: Well, again I appreciate your comments very much, and I know Tony has gone out of his way to talk about this in terms of legal ethics and that this seems to be more aspirational than mandatory in any sense of the word.

But why don't we go ahead and take 15 minutes --

MR. McPARTLAND: Yeah.

COMMISSIONER ERICKSON: -- and try and reconvene and talk about the exchanges' situation.

(A short break was taken.)

COMMISSIONER ERICKSON: If we could get everyone's attention. As we settle ourselves in for the second half of the program, I'd like to welcome Commissioner Spears.

COMMISSIONER SPEARS: Thank you. My apologies for being late, and United Airlines' apology as well.

COMMISSIONER ERICKSON: Do we have that in writing?

COMMISSIONER SPEARS: It's coming.

COMMISSIONER ERICKSON: I do have a very important announcement here regarding the visitor badges. They need to be delivered to this back table -- Natalie and William, you want to raise your hands? -- before you leave today. Our hosts will be charged \$25 per tag if any of them are missing, so if anyone wants to exact ...

All right. We'll go back as we start to wrap up and talk a little bit about our short-term agenda with respect to the subcommittees, but let's go ahead and move along.

As you'll recall at our last meeting, we explored various disaster scenarios during one of the past discussions that Tony volunteered to lead last time around.

I'm sure no one in this room imagined the magnitude of the disaster that we faced on September 11. The horrible collapse of the towers created unprecedented physical, emotional, and financial aftershocks in this industry. Yet our industry has tackled recovery efforts with energy, cooperation, and resolve.

As you know, the Commission itself was directly affected. Our New York regional office was located in one of the World Trade Center towers.

I'm very pleased and relieved to report that each person in the New York office escaped the collapse. Through the remarkable efforts of our staff, that office is back in business and soon will have new permanent address.

I am equally pleased with and very proud of the efforts of this industry in the wake of the disaster. The speed with which New York exchanges were able to recover and get back on line is a testament to the good will and cooperative spirit of all those involved in the effort.

There are many other issues still to be addressed as this industry moves beyond the initial stages of physical recovery, but the Commission is committed to working with our markets and their participants to address the concerns that may arise as the industry continues to rebuild and plan for the future.

Before we turn to our panel discussions of exchanges and intermediaries, I would like to turn the program over for a few moments to Chairman Newsome for him to give us his insight and some remarks about the Commission and its activities over the last couple of months in responding.

CHAIRMAN NEWSOME: Thank you, Tom. I'll be relatively brief. Just a few comments.

I know that -- Dave, good seeing you these are issues that have been discussed and thoroughly discussed, but I certainly think there are some comments that should be made.

There is no question that this industry is forever changed, that we as individuals are changed both personally and professionally, and I think as we look at the CFTC and the role of the CFTC throughout this situation, I think there are several things that we can look at, and if you'll allow me to, I'd like to take just a few minutes to discuss some of the things that we did, tried to do, and kind of where we are now.

Upon the announcement of the crashes, we set up two emergency offices, one to deal with the personnel issues. Those of you who are in Washington know that all of the federal buildings were closed when the other buildings were closed as well, and it was chaos trying to get home. We set up a car-pooling center to try and give our staff just kind of an opportunity to get out of the city and home as quickly as possible, and then we immediately tried to start calling the phone numbers or the phone numbers of families of our New York staff to assess their situation, and Tom's already commented on that.

The second was to deal with market issues. We held the first President's Working Group conference call within about two hours after the announcement of the crash, and I think there was one steady theme throughout that call, and that was coordination of the markets. You know, from a regulatory standpoint, from a market standpoint, let's work to be as coordinated as possible. Let's send that message to the public, to foreign jurisdictions that we are very coordinated, and I think obviously we were very successful from that standpoint.

Day two of the President's Working Group calls turned to, you know, working with the markets to become operable as quickly as possible, and certainly there were many conference calls and individual calls with commissioners and members of our staff, and I hope that everyone feels here that the Commission was trying to work as responsibly as possible to get markets up and operating.

The Commission tried to take a very responsible approach to what our activities were. Certainly we didn't feel like it was the time to take any kind of heavy-handed approach in dealing with the market tragedy, but what we did was kind of divided responsibilities among the commission and senior staff, and we did that based upon advisory committees.

Commissioner Holum coordinated with our staff and then with foreign jurisdictions on issues that were coming up. Commissioner Spears talked to the ag participants in both the futures markets and cash markets and then made quite a number of the calls to the White House for the needs within our industry as well. Commissioner Erickson concentrated on technology issues, became the Commission's person that was on the FIA calls with Barbara and John, exchanges and firms, and that actually turned into quite an extensive responsibility for Commissioner Erickson, but we certainly appreciate the tremendous role that he played there. I certainly want to thank John and Barbara and the FIA for the role they had in serving as coordinator in getting all those market participants together.

But I wanted to publicly take this opportunity to thank fellow commissioners and senior staff for the support, the time, and the coordination of Commission efforts. Even though our offices were closed -- even initially, you know, there were reports of planes hijacked on the way to Washington, and the commissioners, their personal staff, and our senior staff never hesitated to stay to try and fulfill the responsibilities that the commission had.

I also wanted to publicly thank the industry leadership for the responsiveness and the responsibility that was shown during this tragedy. I think we have a very good story to tell within this industry about how resilient and how responsible everyone within this industry was. As we move forward, I think telling that positive story should be a big part of what we do. I think it became obvious that -- through our positive story that our system was not broken.

Can we further coordinate and improve? I think obviously so, and I think it was certainly obvious that based upon the resiliency of everyone involved, the system was not broken at all and that it was put together very quickly.

One thing that we will recognize is that we need improved government coordination. We know and recognize that many of the firms and many of the exchanges were bombarded by a number of government agencies asking for the same information, and that put a tremendous burden upon many of you, and that's something we've already discussed at the PWG level and are working to develop a more appropriate response, given a similar situation. But the PWG is looking at formalizing some kind of a contingency plan.

The PWG, as many of you know, is a very informal setup between the four agencies. I don't know there's very much on paper, John, about what our real roles and responsibilities are, but I do know that there was no contingency plan in place, and while everything, I think, worked very adequately, given a slightly different set of circumstances, it may have been very difficult to get the agencies and the principals of the agencies together to start the coordination efforts.

Three, I think we all learned that there can be further coordination, improvements at our agencies through coordination, and then improvements in marketplace contingency programs as well. I think as we all look at our individual contingency plans, I don't think there's any question that as individuals, these plans were very good. And I think in a situation such as we've had, coordination between contingency plans was probably not as good as it could be, I think primarily because we never dreamed that we would have as large a tragedy as we've had. So I think we've got to try and learn -- learn from these experiences.

There are going to be numerous government reports. GAO among others is working on a report, many other agencies. And I felt that because this industry had such a positive story to tell, that we should act quickly to discuss the industry response to this tragedy so that our positive story didn't get lost in the myriad of other reports that may come out with recommendations.

So, you know, we contacted the exchanges. We've talked to many of the firms. I know that the NFA has been helping us with this as well, and we've gotten responses in terms of a chronological list of events that took place, either in your firm or at the -- or at the exchange, actions that were taken both from a regulatory standpoint, from a marketplace standpoint. We're going to compile those, and we hope to have them compiled in the next two or three weeks, to not only tell the positive story about how quickly this industry bounced back, but also so that we could share this general information and learn from others so that we can make improvements as we go further down the road.

Again I primarily wanted to say thanks. Many in this room were very, very helpful to the Commission and to your fellow market participants as we moved forward. I don't think there's enough thanks to go around for the positive events that happened after September 11, but certainly on behalf of the Commission, we appreciate the responsible approach that everyone took and look forward to hearing more of the specific actions that were taken later on in the meeting.

Tom.

COMMISSIONER ERICKSON: Thank you, Mr. Chairman. The first panel that we've asked to comment is made up of exchanges, and primarily with the NYMEX and the New York Board of Trade, conveniently on either side of me.

But before we turn it over to the more focused discussion on technology and systems issues in the wake of September 11, I wanted to invite Bo Collins, the president of the NYMEX, to talk a little bit about this in the larger context about what the exchange faced and how they've moved forward and proceeded. Bo is president of the NYMEX, and he's had a trial by fire here.

But welcome. Glad to have you here.

MR. COLLINS: Thank you for having me.

I don't have any particular expertise in disaster recovery except of recent, having lived through it, like many of you have, although I did -- I started my career at the Federal Reserve, and the very first

project I ever had was on the disaster recovery, so I kind of dusted off the cob webs in my mind of what that looked like.

I would kind of like to relate to you our story -- I'll be as brief as possible -- in the context of what that might compare against what I viewed as a typical disaster recovery plan, because there were some shocking things that happened that at least I had never contemplated from an operational standpoint.

As you know, the planes had hit the towers. In our case we really felt a responsibility to investigate at least partially what was happening. At the moment of the event, you're not really clear on if it was a saboteur or an accident or whatnot. We did so, and some of us physically walked over to investigate the site, stayed in contact via radio, and pretty quickly realized that there was a problem, and we evacuated the building.

There's a lesson in that evacuation I want to come back to, so if I can get someone to remind me of that, because of what happened really when people hit the streets.

It immediately became apparent that what we knew of and thought of as Downtown Manhattan in the way that it operated had changed forever at that instant in terms of transportation and communications in particular. If you had a cell phone, if you had a typical cell phone at that moment, it stopped working pretty much. The lines jammed up from being busy. The transportation -- downtown is very dependent upon public transportation -- more or less completely ceased. The only one that I'm aware of was boat service continued to run for a while, and that eventually ceased also. So we had in between 3 and 4,000 people dispersed throughout Manhattan trying to assess what it was the thing to do.

Fortunately our energy markets had not opened yet. I think we're in -- maybe they had been open when the second plane hit, but nothing had been transacted. But our COMEX markets had been open. And as people were evacuated, basically we just stopped trading and got out of the building.

The interesting part at that point was realizing that we had board members and managers of the exchange spread throughout the city and New Jersey, and we quickly convened on a teleconference call at 1:30 and began putting a plan in place. We had kind of a -- additionally an unusual situation in that our backup -- our data recovery facility was next door to the World Trade Center, so we had some very concentrated activity in the downtown area.

We had a series of conference calls, took emergency actions at the board level, and at which point basically the power to run the exchange was handed to the executive committee. That nuance ended up being very, very important because of the capacity to communicate amongst what typically is many partners in your exchange became incredibly limited.

The next thing that became kind of obvious is -- or apparent is we needed or wanted to have some dialogue and communication with local authorities, what was happening, what was the security protocol for the area, and at that point, at least later in the evening, what was the status of our facility. We really didn't know if it had been damaged, if there was significant engineering or

structural damage to the downtown area, and that became a very, very difficult process, getting -- establishing communications with the right authorities.

One of the most remarkable things about this process is you recognize that perhaps in normal life, the most powerful individual that you might know in the city or state government is nearly as in the dark as you are, that somewhere in the organization of emergency management, there are individuals that -- whose expertise in life is to deal with these situations, and at that point in time they become the people who are really running the show and have access to what I would call real-time information.

So establishing or reestablishing those lines of communications at that exact point in time, very, very early in the game, became extremely important for us, one of which, which became actually completely critical in the process, was with the CFTC. They elevated our concern to the level of the White House, and we basically became, among other exchanges in the area, a very high priority in the management of the disaster.

The next step that we really needed to accomplish quickly was just a physical assessment of what our situation was in the building. By 9:00 o'clock or so, really probably earlier in the day, but by 9:00 o'clock, there was a security perimeter around the area. You couldn't really get into your building. Perhaps you could sneak, but if you were walking through any kind of obvious path to your building, you were prohibited from that without some type of blessing from the Office of Emergency Management.

We were fortunate enough by about, oh, midnight of that evening to have two people be granted access to the building. They made the observations of the condition that it was in. We were again extremely fortunate that there really was no physical damage to the building outside of maybe some environmental issues of a very minor scale in terms of dust that had gotten in, but we had a pretty serious air-filtering system, and the vents were on the opposite side of the towers, and again we were lucky that the building itself wasn't really contaminated.

This kind of takes us to some of what I thought were things that are interesting from the standpoint of things that I'd never thought of before. For instance, we knew the water was out to the building, and most of us -- in my case I'm not a technician -- assumed that, well, we don't have water to the facility. That's okay, so long as we have power, because our generators are up, right? Yeah, they were up, and that was fine, except our computer facility was 110 degrees and creeping, and we came perilously close to a meltdown effectively because of the lack of cooling ability. The general air conditioning to the facility I think had been turned off as well.

Another fortunate thing about our building is we're right next to the water, so we began a process of scheduling water barges with pumps and hoses to come to the building and establish water supplies in the facility by that method, which brings us to another interesting point.

In any kind of crisis like this, you absolutely have to pursue parallel paths of solving problems. It's a mistake to pick a path and assume that there will be no glitches along the way, because there are many, many, many obstacles to any -- to the simplest of tasks. Again just getting into your building becomes an obstacle. We were fortunate.

The other path we pursued, in addition to trying to schedule water tankers, was having the city turn the water back on. We were lucky that that solution was achieved first, just because it made what we had to do so much easier.

Another interesting dilemma was our generation, our backup generation, which is diesel-fueled. And Neal probably knows the number, but I think we have a four-day or a five-day supply of fuel on site most times.

MR. WOLKOFF: Sounds good.

MR. COLLINS: But in any event, you again are in a position where you say, well, four or five days without power, I mean, my God, that's plenty of fuel, and you assume that, well, if you did need more fuel, you could just truck it in, and I can assure you that none of those were possibilities, and we got back into the situation of having to schedule a barge to come and pump, through what would have been a very messy process, fuel oil into our facility so that we could continue on backup generation.

As it turns out, again we pursued a parallel path. This actually took, I think, some action -- I think the CFTC got involved with this issue up to the White House in terms of just getting clearance for some fuel trucks down to our facility to refuel.

We then had a generator go out. One of our three generators began having fuel pump problems. It leaked diesel fuel all over our roof. Our generators are on the roof of our building. And I began to feel like I was in an old episode of Star Trek where, you know, every five minutes Scotty was calling down to the engine room about what's going to blow.

We were able to get our hands on mobile backup generating facilities but had to get a special permit -- you know, I don't even know who issued the permit, what governmental department, I think maybe the EPA, regarding air pollution. Again we ran the traps through the CFTC, the White House, and were granted a pretty immediate -- you would think in a disaster situation that that would just not be a conversation anyone would seriously consider, but it was.

We attached additional generation to the building. That -- just to give you another little nuance, we had to have professional electricians come and do that, and as a nontechnician, you just assume it's kind of like plugging in your hair dryer, but it really is about a 12-hour job for a team of technicians, and Con Ed, as you can imagine, was pushed to the max, so that was a small hurdle.

We also had to consider our environmental concerns inside of our building so that in order to safely deploy people into it, we had to have air tested and actually some cleaning done, and while it doesn't seem like it was a big event at the time, had we not been able to do that, it created quite a moral dilemma about how do you occupy your building even with a small team of people of ten or so.

Our next big hurdle after we kind of got over many of the physical issues was communicating with our customers, the FCM communities, the regulators, and the public. It's interesting to see the

various levels of cooperation. Our regulators across the board were extremely supportive. The FCM community was extremely supportive. Really everyone we dealt with was supportive, but the very intense demand for information at a moment when you're not really sure what's going to happen in the next 30 minutes becomes a pretty big operational burden. Nevertheless it's very important and it's something to consider in a disaster recovery process is how do you communicate exactly what it is that you're doing to the extent that some of those things are prescribed. From the perspective of how you would do that, I think it is important.

The Web site obviously is an invaluable tool, the Internet if you will. In fact in our entire experience, probably the only thing that consistently worked was the Internet. You couldn't really depend on land lines. You couldn't depend on cell phones. Blackberries weren't too bad, but the Internet was kind of one of the keys to our communication.

Good media relationships is very, very important. The ability to distribute even casually over the phone the right information and know that it will be disseminated broadly and quickly is an important issue.

And then something that the chairman noted was the understanding of your community's disaster plans, and by that I mean your business communities. Knowing where an ABN or a Refco or a -- many of your meaningful FCMs, your banking community, where they are going to be and how to communicate with them is very, very, very important as you can imagine. As it turns out, I think we actually collected that information fairly quickly, but again, having an advance sense or a database of that information would have made our communications a much simpler process.

Probably one of the very last big immediate hurdles that we had to get over was reestablishing connectivity. In our case we had not moved perhaps as quickly down the technology curve as many of the other exchanges or our customers had and had been very dependent on a dedicated communications network. However, we had been working for six or seven months on converting most of that to an Internet protocol.

This was our biggest trial by fire, as many of you know from the conference calls through FIA, was deploying that system in a reasonable and safe fashion. Fortunately it all worked, and we were able to reestablish our business fairly quickly, but understanding the impact of your connectivity is extremely important, even in an Internet environment.

In order to accomplish that, we actually had to deploy new microwave technology, considered satellite technology, and had to have very, very high priorities from the major telecom companies that serviced our area. Again, had we not had that relationship with a priority standing, it would have been a completely different ball game.

The last kind of thing I would point to for us in operating -- we did reoccupy our building, we were able to operate and kind of reestablish our business to some sort of norm -- was the daily operating procedure of your facility. How do you get 3,000 people to a facility that pretty much can only be approached by boat. In our case we privately arranged for the boats, paid for the service, and very quickly got in the transportation business.

My CFO has now assumed a new title called the chief ferry officer. That's because he was tasked with the responsibility of scheduling all the boats, and you can imagine how many interesting requests you had from a crew of floor traders.

So the remainder of getting reestablished had mostly to do with transportation issues, working with our customers, our FCMs on their disaster recovery plans, and then actually began to deal with the emotional aspect of the disaster, and that -- that's something that should actually be formally included in a disaster recovery plan because your human capital, in many senses, is the only capital you have, and if people can't feel comfortable about what they're doing with some sense of security, then it becomes an incredibly difficult workplace.

So that's the NYMEX story, and I'm happy to answer any questions, but I have a feeling that the NYBOT story is even more interesting, so I'll pass the mike.

MR. GAMBARO: Well, we had a similar situation in most cases since we're located about three blocks from the Merc, except we're at 4 World or were at 4 World Trade Center, which is in the shadow of Tower 2.

When the first plane hit, we didn't know what it was. We just had heard an explosion. It was so intense that we immediately evacuated the trading floor. By the time we got everyone down and outside the building, we were able to see the second plane hit. So the majority of my staff, my trading facility, all the people that were on the floor, the A floor of 4 World Trade, were standing on the corner by the Burger King or across the street by Brooks Brothers and watching the second plane hit, which was traumatic in itself.

At that point, once the second plane hit, everyone scattered.

It wasn't but an hour later that Tower 2, which was the first one to fall, fell, and it fell on 4 World Trade, so our facility was gone, and with that, our main concern was safety, people, where were they, did they -- were they able to get out, who was still in the building. We did lose a few people but not many, thank God. But the main concern at that point was safety, who was okay.

Fortunately enough for us, back in 1993, in February, there was another disaster at the Trade Center when the terrorists tried to eliminate us at that point. Well, we learned from that experience.

Shortly thereafter, in about March -- the attack first occurred in '93, in February. In March I put a think tank session together with my IT group and some senior management and said we're going to have a problem here if this ever happens again.

The rationale was, just a month ago, on the Sunday before we were able to get back into the building, we were in the Millennium Hotel trying to figure out where we were going to get a loft, how we were going to get painters in to paint rings on the floor, and how soon can we get telephones in so we can communicate with the outside world, how we were going to get prices disseminated. Well, we figured at that point we didn't have a business. In fact we had gotten some

calls during the last episode from London saying we'd be willing to list your products on life and to help you out, and they were really looking to help us out.

Anyway, so we learned from the last one, and by learning, we put together a white paper, went back to the board, discussed it with them. There were a lot of people looking at us cross-eyed saying you're willing to spend how much money? Do you want to do what? There's no way. Well, I convinced them at that point to get ahold of a consultant.

We brought in Deloitte & Touche, spent three months trying to put together the wherewithals of our plan, a hot site. First of all, we had been private -- previously on the cold site. And also putting together a trading facility, which was nuts altogether.

They did their job. They went back to the board and said they're right. They brought a lot more information to the table saying that, well, your industry alone, for every day you're out of business, you lose about \$3 million industry-wide, and, oh, by the way, the exchange loses about 3 to \$350,000 in exchange fees and clearing fees and all this other stuff, so it makes sense. So the board said, well, go ahead, spend money, but don't spend too much.

Well, we went looking, spent some time back in '94 after they finally gave us the okay, and we ran it through a company called Chubb Recovery Services, which has since gone out of business. In fact I believe they sold their business to Comdisco.

Well, they had a hot site that they were just buying from a bank in Long Island City, Queens, and they said why don't you come and look at it. Well, we went to look, and sure enough, from a hot site standpoint, for my computer facility, it looked great. Sure we could back it up. It looked like we had to take a lot of space or not spend a lot of moneys.

And, oh, by the way, there was this warehouse on the first floor that when I first looked at it, I said this looks like a trading floor to me.

So we looked at it, looked at the mice running around and the chairs all over the place and the ceiling falling down, and I said, well, I think we can do something here.

Well, we convinced Chubb to fit out the facility, and at their nickel, which cost them a little over a million dollars, they built a facility for us and 5,000 square feet of space.

And, oh, by the way, at that time we weren't the New York Board of Trade. We were the Coffee, Sugar, and Cocoa Exchange. We hadn't merged yet with the Cotton.

And they fitted it out, and now the problem was how do you put the electronics and all the other stuff in. Now you're talking a lot of money.

Well, we put all the numbers together. We went back to the board. We showed them that over a period of time, we could break out even between what it cost us for a cold site with SunGard in Philadelphia and how much money it would cost us for each day that we would be down and the amount of money that we'd have to expend at the hot site with a permanent facility where we can

run into bit by bit all the activity that went on at 4 World Trade Center. They bought it. They said, okay, put the hot site in. But the trading facility, no, no. It's going to cost you too much to house.

So I still made Chubb go out and build it, and what I decided to do then was just take the old equipment that I was using and moving out of 4 World Trade and bring it into the hot site in Long Island City, convinced them it wasn't going to cost us a lot of money to do this, and they said, okay, you can have your facility. For about \$250,000 a year, we had a trading facility. Now, it's only in 5,000 square feet of space, and basically that's what we were trading at at 4 World Trade Center, when all the sister exchanges were together in about 20, 25,000 square feet of space. So we could do -- we did fine with the coffee, sugar, and cocoa approach.

And on top of that, we said, well, wait a minute. We got to have a plan here. This is crazy. I got a facility. You got this hot site. This is terrific.

So I brought in SunGard Recovery Services, and we put a business continuity plan together. We spent years putting it together and coordinating the activity with all the departments in and outside of the organization, making sure that we had connectivity to all the members, that everything was duplexed, that everything was on line, that I was able to coordinate with my quote vendors, and I could coordinate to my FCMs, my trade houses.

We tested quarterly, and for the last six years, we've been testing quarterly. We've been collecting a lot of dust, and we've been very happy about the dust, and we figured, well, geez, one -- you know, in New York you get -- you tend to get blackouts and brownouts and -- depending upon if you're in a notice period, you're not in a notice period, it's the last trading day. Well, we had a facility to go to in the event that we had the small little glitches.

The business continuity plan that we put together looked at all aspects of the business, a one-day, three-day, five-day, a month, a year failure, right through. We put communications officers in place, people that would communicate with the media. We put people in charge of each one of the departments. We had an incident management team which was made up of all the senior managers and all the senior executives at the exchange. We had the system put together.

We put together this continuity plan, which is about a telephone book thick, of all the departments, all the activities, from clearing right down to the trade match systems, what happens on the floor as far as the network is concerned. Every intricate piece of the business was contained in that document. Each member of the incident management team as well as each department head had a copy of it, the entire package. We also put it up on our Intranet page so that if you were home and you wanted to look at something and you didn't have a copy, just bring it up on your PC.

Since everything was mirrored between 4 World Trade Center and the hot site at Long Island City, no matter what site we lost, we still ran. Bits and bytes, everything was mirrored. If I lost the exchange at 10:01 in the morning, then at 10:01, I knew exactly where I went down, what was in the system. I had all the history files. The storage was there. I had all my files backed up. There was nothing I couldn't recover back in my hot site, and/or if I lost a hot site, I could still have it over at 4 World Trade. So we put that together.

Along with the business continuity plan, naturally we had to have a disaster recovery plan. So we tested that. We had quarterly meetings with all the department heads, understanding all the changes. As things changed at the exchange, we changed things in the document, so it was always up-to-date.

The last major test we ran was in July of this year where we tested with the quote vendors, the FCMs, and unfortunately I couldn't get my floor population to come to the hot site. They thought it was foolish. I think I was just telling John Rapin a little while ago about one-tenth of one percent didn't even know I had the darn thing over at Long Island City.

So here 9/11 comes. For all intents and purposes, we're out of business. There's no way we're going to get back in business.

The business continuity plan calls for X amount of people from my IT group to go over, no matter how you get over there, go to Long Island City. By 8:00 o'clock on September 11, we were up and running, ready to trade. The only problem I had is I couldn't connect my quote vendors who -- a lot of whom were connected down in the World Trade Center area, and I couldn't connect to a lot of my FCMs, so we had problems there. But we were ready to go.

Now the problem was to get the membership down finally. In preparation of that and in -- I talked to Alan way back when we were doing Y2K, we put together a plan for the brokers, and we sent out a package to the brokers quarterly. If you were a paper broker who did paper business, you were assigned booths and phones so that you knew if you could not trade at 4 World Trade Center, you called up your customer and said this is where you can reach me. I'm going there now.

We had 250 cell phones in case we needed extra ones on site for the brokers to have. The brokers knew exactly where to call. They had the Web site numbers. They had the emergency 800 number. They had the radio numbers. They had the directions. They even knew what restaurants were in the area. There was a whole complete plan so that they knew if they went there, go.

So we decided on Saturday, before we started trading on the 16th, to get them down there. So what we had planned on doing is that, because now we had the consolidated exchanges, more population, and I really needed more space, I immediately tried to get more space in the building, which fortunately there was more. So I took a transition area, which was adjacent to where my trading floor was, so that the brokers could congregate.

We put a mini schedule in. Every one and a half hours with a half-hour break in between, we would trade. We started trading at 7:00 in the morning. We ended at 5:00 at night. But everybody got to trade. It worked fine.

The people came in on Saturday and said what is this? This looks better than 4 World Trade Center, and it did because it was brand-new. But, Jesus, we're only going to trade an hour and a half. Well, an hour and a half is better than none. So we did.

So we started up on Monday. We got rid of all the kinks on Saturday. They came in on Monday, and it ran like a charm.

The first day we traded 140,000 lots, which is double our average daily volume. The second day we traded 160. We went up to 180 one day.

We've been averaging about 185 in that one and a half hour of trading.

We've since built out. We've taken more space and put in two more trading rings. We now have four active trading rings where you can trade two products concurrently for futures and options, and we're building two more major trading areas opposite the floor which we've -- we originally designed the space, so now we'll have six trading areas, and that will be effective February 1 of 2002. We'll probably get back to normal trading hours.

We got problems as far as ceiling heights. It's only 15. I put baffling in to help with the noise.

They have everything and anything they needed prior to even getting there. And the way we prepared the site, we have overhead displays, all the connectivity to the outside world.

The phones -- we had one cute thing happen with the phones. We didn't have enough phones, and the cell phones weren't even enough. The brokers complaining I need 14 headsets -- handsets in each one of their booths.

So we did. We got ahold of the Army through the mayor's office. They flew in two days after we were in there a new switch with 1200 lines in. It took us four days of working night and day to put four more phone lines in each booth. Now they have six. On different exchanges so in case one went down, we have -- we have a backup type situation. And they had everything they needed.

Basically the brokers were exceptional. They weren't all full of themselves when they came in. I think the majority of them, they were happy first that they were alive; secondly, that they had a business to go to; and third, that their families were intact and that we weren't on that plane. We didn't have a lot of medical problems of people not being able to adjust because of what they went through, so we had counselors come down, and we still have them coming down once a week to talk with -- you know, EPA and whatnot to talk with these people to get them kind of cleaning out their cobwebs.

But theoretically it worked, and why it worked was because we put a business continuity plan together. We put a disaster recovery plan together. We communicated and coordinated. We duplicated everything. Wherever I could spend a nickel, I would spend it. If I couldn't spend it, I borrowed it, and I'd take it out of 4 World Trade Center, and I put it over there, and I put a new piece of equipment, the basis of my budget, over at 4 World. But I had enough to back it up.

We have a -- we had a trade input system through our tips process, a clearing system, which was there. All our internal processes on the network were up and running. All the phones were active. The connectivity to the outside world was there. It worked, and it still works. We intend to expand

the hours, like I said, hopefully get back to somewhat a semblance of order in February. But thank God that we're up and running.

And I guess that's our story.

COMMISSIONER ERICKSON: Thank you both very much.

I did also ask the Chicago exchanges to reflect on the events and chime in anytime that they thought they could add some perspective -- maybe from their experiences with the flood of a few years back or other episodes.

But, Peter, did you have a question or a comment?

MR. BORISH: Well, I just wanted to say two things. First of all, Doug Gardner, who was on this committee, was a good friend of mine. His wife was a very, very close friend of mine, and two kids, and it brings it home.

But I also want to say that what these exchanges did was extraordinary as someone who had a lot of open positions, and I think when we look at the power of markets and we talk about everything that's going on here, how important they are.

If I had told you today that after 9/11 that crude oil would be at \$20 a barrel, 33 percent below where it opened, that gold would be below where it was, people would have looked at me like I'm crazy. So we cannot think about where the message would be if everybody thought that oil prices were going to spike up and how important the recovery in the aftermarket and everything else has been due to the fact through declining energy prices, and there's all those reasons for that that we don't need to go into.

So I just think it's remarkable what they did to get up and running from a business point of view, and I think as we sit around the table and the committee of the CFTC and the public service on how important it is to get up and running, and I just -- I can't commend them enough for all the effort, and I was on the -- a lot of these conference calls, and I'm truly blown away by their effort and enforcement.

COMMISSIONER ERICKSON: Thank you. I think everyone around the table would concur with that. It was pretty amazing to witness the ability and the resilience of people who were going through all the personal tragedies that we've heard about of people we know, and to work through those and put these markets back together in a fashion that they can all be very proud of.

MR. COLLINS: Can I say one thing? I'm sorry. I left out one very significant event. This is a great forum to bring it up in. One of the really remarkable things that happened to us, it was truly amazing, is that the CME reached out to us and basically said, hey, we've got kind of a common software system through clearing 21, we've got a common culture, and we think we understand you guys. If you're in a bind, we will build it, and you can come, is what they did. And we sent only a couple of staff out there, spent a lot of time on the phone with them, but they dedicated -- Scott will know the exact number, but I would say 40 to 50 people around the clock for a number of days

basically setting up so that if we were not successful in our facility, that we would have at least some option, albeit a distant one. Nevertheless that was an amazing commitment on their part. I'm sure it cost them valuable resources and money. I kind of wanted to express our public thankfulness for it.

MR. MILLER: Since you have the mike there, you wanted to be reminded of something that related to your evacuation?

MR. COLLINS: Oh, one of the things that you don't think about -- because you don't practice evacuating that often truthfully, you have fire drills, and everyone kind of goes down the stairs, and that's it, is you lose track of who's where. I did, as a manager of the exchange, but even the many, many, many different companies in our facility lost track of where their key and important people were. There wasn't really a process for congregating and counting and taking a head count and having knowledge of who was there that day and where they are and where they should be in the next few minutes. It sounds like perhaps a nitpicking detail, but in that few hours, the eight hours or so after the event, we spent a lot of time asking, well, where's so-and-so. I don't know. And in praying that they weren't at the base of one of the buildings or -- and it turns out in our case, at least certainly with employees, that they had all been in some way held up and incapable of communicating back to us where they were. So I recommend a process for dealing with that.

COMMISSIONER ERICKSON: Any other comments or thoughts on the exchange presentation?

Thank you very much. I appreciate it.

Why don't we go ahead then, and I'm going to turn the program over to John Davidson, who's graciously offered to lead a panel discussion about not necessarily a different point of view but certainly a different perspective on the events and how the intermediary community reacted and responded. Joining John will be Chris Malo, senior vice president at Cargill, and Mike Monahan, chief operating officer at Carr Futures.

MR. DAVIDSON: Well, thank you very much, Commissioner Erickson, acting commissioner -- Acting Chairman Newsome, and Commissioner Spears and ladies and gentlemen.

What we would like to do today is just give some perspective on the events of September 11 from the perspective of intermediaries that, one way or the other, were directly involved in those events and these markets and most importantly try to focus on some of the lessons that we've learned from the experience and things that we think will be useful to all stripes of market participants going forward. So each of us will give a little bit of our own perspective on the lessons learned and would be happy to have any comments from other intermediaries or other members of the committee about those experiences.

I'll just start out and make a couple of observations. I actually work on the institutional side of Morgan Stanley's business, and unlike my colleagues in the retail and the investment management side of the business, some 3700 of whom were located in the second tower as well as in 5 World Trade Center, they were all evacuated from their places of work. I'm happy to say in all but six cases, successfully evacuated.

We were not directly or immediately impacted by the actual events that took place. We were, however, indirectly and less immediately impacted in a very large number of ways.

So we had on the institutional side of the business, six key areas of focus. The first and most important was the safety and well-being of our employees, and that remained the primary focus for at least the next few weeks and to some extent continues to this day.

The second area of focus was providing assistance -- any assistance that was possible to our colleagues on the retail and investment management side of the business. That ranged from physical facilities -- we're all a little bit more crowded than you would ideally like to be these days -- to technology to communications facilities.

Our third priority was implementing risk mitigation procedures for those markets that were disrupted by the attacks, and while we think of this as being a U.S. phenomenon in that those were U.S. markets located in lower Manhattan, if you take the perspective of a global firm, it was not,

by any means, a problem that was confined to the borders of the United States. There were a number of markets, Taiwan and Korea come immediately to mind in Asia and markets in Europe, that did stop operating for a period of time or operated in a more constrained way. Understanding what different markets were doing, what time horizons were, and what the impact on our business and our customers was a very important activity that took place during that period of time.

After those three priorities, reconnecting our infrastructure to the various markets, clearing, and settlement facilities and preparing to resume those businesses that were disrupted was the priority. Providing assistance to our competitors, communicating with our clients, and providing advice to interested parties was the next priority. And the final priority, to which there have been some references, was just controlling rumors, an unbelievable number of rumors that go about in an environment as chaotic and traumatic as the one which we all experienced. They don't stop by themselves, and human tendency is to have those get worse quite a bit sooner than they get better.

I would suggest three lessons from our perspective about disaster recovery are worthy of consideration. The first is that people matter. Disaster recovery isn't about software failures, as we all didn't experience with the Y2K incident. It's not about data centers. It's not about trading floors. It's about people. People give you the flexibility and the creativity to implement and work around plans that didn't really think of the immediate circumstance that you're confronting and give you the ability to continue as a business. But in order to do that, they have to have physical security and well-being on the one hand, and probably as importantly, they have to have emotional stability and well-being. You have to understand the kind of emotional tolls that losing a spouse or losing a sibling or losing a colleague or growing up in a community full of firemen and policemen has on people's ability to concentrate and do anything like the normal business, and you have to make adjustments for that.

I think the second important lesson is that customers matter. Now, like a lot of intermediaries, our previous disaster recovery plans, other than related to Y2K, were focused on either internal outages

or outages of one or two major counter-parties at a time. They didn't contemplate the kind of systemic event that we experienced with the attack on the World Trade Center and the Pentagon.

The paradigm, therefore, that our business recovery model was based on was one of guardianship. The assumption was if we had an internal problem with our data center, if we had a connectivity problem, something that was a major disruption to our ability to function by ourselves, we would minimize the customer business that we do and focus on risk reduction and position balancing and position maintenance and liquidity maintenance for our proprietary positions. Then, as soon as we could recover from whatever the problem was, we would get back to more business as usual and doing more business with customers.

Well, what you learn in a systemic crisis is that clients really need access to trusted intermediaries, and so the notion that one or more important intermediaries are going to be able to stop talking to clients is actually exactly backwards. Clients need to talk more with intermediaries during periods of trauma than they do during ordinary market times. So all of our assumptions about backup recovery sites and how many phone lines we needed and whether we had to order turrets and this, that, and the other thing were based on a guardianship risk management minimized business mode, they don't work. You need to be able to do a very substantial part of your peak load business in this kind of a systemic crisis that we experienced.

The final lesson I think is that communication networks matter. There are all sorts of communication networks, formal and informal. I'm a Midwesterner, so I don't, but if you buy the notion that New York City is the center of the financial universe, the unknown corollary to that is that 140 West Street, which was the Verizon central office through which 85 percent of the connectivity to the New York Stock Exchange flowed, that is absolutely the center of the center of the universe. And the number of latent single points of failure that exist, the problem of peak loads and how you adjust for peak loads in getting people back up to operation, 800 numbers that didn't work or weren't accessible, things of that nature, communication networks really matter.

And I take a note from what Bo said about just the fundamentals of finding out where people are. Notwithstanding the fact that we're one big happy family, we don't have a good understanding of how different parts of our business work. But our chairman does, and he recognized that the Discover Card had a bunch of call centers that handled literally hundreds of thousands of telephone calls a day. We deployed those call centers to get hold of all of the people that were displaced by losing their workplace and finding out where they were, tracking down them or their relatives. Within three days' time, notwithstanding the fact that these people had never practiced something like this before, they were able to make contact with all of those people.

So people, customers, and communication networks are the lessons I'd draw for the future. Why don't we turn it over to Chris for some perspectives on his part. MR. MALO: I'll try not to repeat things covered by both the exchanges and by John because I think we have all experienced similar, I guess, events.

My situation was a little bit odd in that I was completely displaced, and I was in Singapore on my way to Osaka along with the CEO of CIS, and we were traveling together. It was kind of one of these think quickly on your feet, and realizing that -- you know, that there was a very good chance

that the airspace was going to be closed. We had just watched the towers come down while sitting in the lobby waiting to board the plane, and so we decided that if airspace was going to be shut down, we'd be better off in London rather than in Tokyo. So we changed our flights and made it back to London.

And it was really -- it was interesting to me to actually -- if you know the flight path from going from Singapore to London, it was the first time I ever realized this, that what they did with the airspace is they shut down all communications. We were completely out of communication for 14 hours, wondering what was going on in the world, because they shut down the satellite communications with the airplanes. So we couldn't make any contact, and there was no information being released by the pilots, and all that was going through my mind is thinking about our team that was on the NYBOT and hoping to God that they got off safely. It was really the first time in 24 years of being in this business where I really had, I guess, the concern about losing employees and loss of life and what we do. You just don't think about it in the financial services industry.

Upon landing in London, our first calls were to, you know, take inventory of our employees, and through e-mail and through, I guess word of mouth. Our employees in New York tend to live in clusters around the area, we were able to take inventory of all our employees except one, and we finally made contact with that employee on the Thursday. That was our first concern, as John said, that you can have great disaster recovery plans, but if you don't have the people to execute them and knowing where everyone is at, it just doesn't work.

In our firm, we look back, and I guess we've always taken disaster recovery seriously. When you think back, we've had five crises like this over the past eight years. We've gone through two bombings in London. Both bombings blew us out of our offices in London. We had the crisis -- the bombing in the World Trade Center in '93, we had the flood, and now we're dealing with this situation. So we had always prepared ourselves, and we had tested and kept the disaster recovery plans pretty much current -- because we had to, and unfortunately we were exercising them live with some frequency.

But one of the things that this situation brought out to us, and I think we need to give some thought to this both as an industry as well as in our own business, is we started to realize a concentration risk that we have as far as operations. We were taking an approach toward our businesses that because of the technology and communications, it was very easy for us to basically consolidate same work processes in one geographic center because you can. This experience basically pointed out to us a concentration risk of operations, because you look at having a situation where you lose employees and you have concentration, you are putting your entire business at risk, and this is something that I think we need to look at as an industry.

And I think it's still a rule at the NYMEX that you have to be physically located in Manhattan to be a clearing member? I'm not sure if that is still the rule, but things like remote clearing, I guess, as firms?

I think it is important for us to be able to clear a particular market regardless of where the work is being done and where the physical offices are. Things have opened up in Europe, and I think we

need to look at that as far as our industry as well, whether it's Chicago or New York, just making sure that we're looking at concentration risk.

I guess for me a huge value was the value that the FIA played in just being that meeting place. Being stranded in London for the week that I was and being able to participate and listen on the phone calls and, you know, having that medium whereby we can get accurate information about what's going on with the exchanges, market hours, keeping things current, and being able to communicate to our customers via our Web sites, but then also too what we did was linking our Web sites and being able to communicate to the exchanges.

I just can't emphasize enough the value that the Web sites had in our industry in supporting our business, as well as enabling our customers to get accurate information. I think the comment was made managing the rumor mill was incredible. We had an experience on just some rumors that went around our firm on the NYMEX floor on a particular day where our employees were just too nervous to stay at work. We couldn't make them stay, and we didn't want them to stay if they didn't want to be there. Again, rumors then got circulated around the market on what's going on with Cargill, and did we have inside knowledge, and it just wasn't healthy at all.

I think also a lesson that we learned on this was, I guess -- I was in Europe from '96 to '99 when the markets moved from open outcry to electronic trading, but really the value of having electronic trading facilities in a marketplace, if we lose the open outcry facility, being able to revert to open outcry was just huge for us. And, you know, the NYMEX -- we were there and active on the market on the 14th. I think we handled about 15 percent of those orders, and we actually ended up handling a lot of orders for other FCMs. But had the NYMEX not had that facility, as well as then the NYBOT having its backup, I guess we learned the value of the electronic markets and being able to provide our customers access to manage their risk.

I think John touched on a little bit and we experienced this as far as, I guess, the risk management concentration risk, thinking through, you know, not just so much the operations on getting the reports. We had that covered. But understanding what could happen with the risk to the firm and the risk to the customers and making sure that there is proper liquidity, and one of the things that was interesting, we found that the new funds as far as -- that came about as Reg. 1.25, they proved to be the most liquid of our investments of our customer seg funds, and, you know, it was something that we'd never anticipated, but having the liquidity available, being able to settle with the clients, settling with the clearing houses, it was all -- it was key for us. So that's it.

MR. MONAHAN: Well, firstly I'd like to echo the sentiments of Mr. Borish. When I entered this business in 1979 as a lowly runner, I was a bit smitten with the camaraderie that existed in this industry, and until September 11, I guess I believed that that loving feeling had been lost forever. I have a renewed sense of fondness for this industry, the futures industry, and derivatives, I guess, these days. The outpouring of support, helpfulness, and sincere, legitimate, from exchanges, from other member firms, the competition, from vendors, you know, is just overwhelming. I am in awe of the support that Carr Futures received. Thank you.

As you might be aware, we had a catastrophic loss during this crisis. We lost 69 people. That was over 50 percent of Carr Futures in New York, and -- you know, actually we lost in excess of 50

percent of our operations team as well. So something that you definitely do not account for in your Business Continuity Plan (BCP) is the loss of the people who you typically would rely on to implement and execute your disaster recovery.

A little bit about what was going on, I guess, on the personal side. I'll just give you a little background there. I won't be too long hopefully.

I witnessed the events myself on TV, knowing full well that employees were probably in harm's way. Amazingly enough in this day and age, people had the ability to communicate via their pagers. We got people who were in touch with employees who were in the building during the crisis. Nobody survived.

So we -- you know, we took action fairly immediately to declare an emergency at our disaster site, which was in Comdisco. If the information I received is accurate, we were actually the first firm to declare at Comdisco, and from that standpoint we were fortunate because I believe many people who came subsequent to that were basically told there was no room at the inn. I can't even begin to fathom what we would have done if that had been the case.

So obviously that's point one in terms of things on the little list to review of issues which, you know, obviously one does not necessarily accommodate for in your BCP. You presume that your disaster recovery site is going to be ready and/or available to you. Mistake number one. But we were fortunate, and so basically because we were first, we got pretty much everything that we requested, which was 50 work stations.

The other thing that we did, which probably echoes some of what we've heard here already -- in terms of prioritization, there were two focal points. The first would be the families and the human resources. The second would be the clients.

On the family and human resource aspect, we became overnight experts in crisis management. We set up a 24-hour, seven-day-a-week crisis center here in Chicago, which was available to employees, families, and virtually everyone. In addition to that, we became grief counselors as well. We enlisted the support -- through the hard work and tireless efforts of our human resources group, we provided grief counseling and support to not only employees but the families of employees as well. So I guess I agree with the notion that you find yourselves having not just to manage the business aspect but the -- I guess the psycho-emotional aspects that go along with managing our business as well.

Maybe this is a little bit off the beaten track, but to give you a little bit of perspective, I spent many days and nights in the disaster site myself, working side by side with these people who witnessed unbelievable horror that showed up to work. I don't understand why they showed up to work. I know I didn't want to be at work at that particular time, and I think it's just a tribute to the employees who sacrificed their lives. It also says a lot about the character of a lot of the people that do work in the futures industry. I guess that would be point two.

One of the things that occurs to me is that while your Disaster Recovery Plan (DRP) has ingrained sort of assumptions in terms of particulars and systems and requirements and business needs, it

certainly does not accommodate for once again that significant loss of those people that you rely on to run your business day in and day out. At least for Carr, one of the things that I've gleaned from this exercise and hopefully I will spend significantly more energy on in the future will be that aspect, that management of human capital and human resources. I certainly don't want to be callous, but as much as this attack was strategic, I think we need to be equally strategic in our deployment of resources, be they human, be they systems-oriented or whatever.

I heard earlier discussion with regards to why were we lucky. How is it that in less than eight weeks, we've returned to our normal operating level. We're fully operational, I'm pleased to say, thanks to the incredible devotion and tireless effort of so many. But is it truly luck?

I mean, we had a certain amount of standardization throughout the Carr group. We have centralized processes, but we have decentralized support and standardized processes and procedures throughout the group. That enabled us to do two things very immediately. One was to transfer the trading support and both the client service support to London and Chicago equally. Because of that structure and that organizational schema which exists, which we practice and follow religiously day in and day out, we were able to do those types of things and to off-load the responsibility to other centers throughout the group.

Is that fortunate? No. I think that's deliberate. That's something that we practice on a daily basis. I think that's something that, for the most part, the industry practices on a daily basis. Maybe we take it for granted, but I think definitely we've been awoken to the need to leverage that fact much more significantly.

You know, when we're in Business 101, we discuss the need for cross-training. Well, it's real. It's necessary. It's something that has to be done on a daily basis and deliberated on religiously.

The other thing I guess that I've gleaned from this situation is not only the need to manage the knowledge but communication. I think key to our ability to pull ourselves out of this situation was a couple of different types of communication.

We coined an expression on a number of occasions throughout this exercise, which was feed the beast. Okay? Whether it was the employees, whether it was management, whether it was the shareholder, there's a need to keep them informed and aware of the goings on, and I do concur with the notion that even at this stage, even post-tragedy, there's almost a vacuum and a blackout. I think there's almost a demand and a need for communication even more so than during the event.

There needs to be sound decision-making capabilities. I think that the information has to flow to the right people so that decisions can be made, because I found through this -- from my own situation that in a situation like this that is just so contrived, that the basic -- there is nothing such as fundamental or basic. Things which are normal in a normal operating environment are no longer the case. People need to be told what to do. They need to be told where to go, who to report to, what their job is today.

It's important to have people in place who are in a position to make decisions -- and then you live with those decisions. Maybe some of them are better than others, but people need that feeling that

somebody is in charge, and somebody is controlling the flow.

I've taken more of your time than I intended to, so I'll leave it at that.

MR. DAVIDSON: Any questions or comments or discussion?

MR. HEINZ: I just have a question -- oh, I'm sorry.

COMMISSIONER ERICKSON: Go ahead.

MR. HEINZ: I just had a question as a fellow market participant. We talked a lot today about disaster recovery, which has dealt with the tragic external threats caused by terrorist acts. I have to ask you guys a question. Do you feel there's a potential that there could be an internal terrorist threat to our electronic markets? With all the substantially growing access worldwide to these markets, that somebody, a rogue trader or a group of rogue traders in concert, could attempt to destabilize our financial markets?

MR. DAVIDSON: I think that's probably a better question for people with a technical security background, but I would find a scenario like that reasonably implausible. I'm no longer willing to say beyond the realm of possibility. I wouldn't have thought that flying jet airplanes into skyscrapers was within the realm of reasonable possibility, but I think that fairly unlikely. But I know, for example, Scott's done a lot of work with communication networks, and maybe he or Chris --

MR. JOHNSTON: We at the Merc have dedicated a lot more people to systems security immediately. We followed in the next days a pretty dramatic increase in different kinds of attacks to our system. We've been watching that nothing has gotten through, but we've been working with different authority to try and manage those.

MR. HEINZ: Is there any potential here at all, I mean in your system, that that could be done or --

MR. JOHNSTON: Certainly there's always a potential because there's lots of ways to break things that we certainly don't know about.

MR. DAVIDSON: One of the things that made Internet reliance difficult during this period was that the NIMDA virus was not quite contemporaneous, but within, I think, three business days, and we, for example, completely shut down any access on the Internet from within Morgan Stanley to the outside world and kept it shut down for two weeks to keep from being polluted, but we paid a price in terms of you couldn't get certain information other than by walking over to the PC that had no local area network connectivity whatsoever and looking that way. So a virus is sort of an example of what you're talking about. It's not a trading example, but it does certainly impact.

MR. GAMBARO: At the NFA, with a lot of the stuff that we're working on over there on our committees, advisory committees and whatnot, there are a lot of things you can do in trading systems, preventing activity by corrupt market makers, putting limits on the amount of business they can do, how many lots you can trade, the amount of money, having connectivity directly to the clearing house and see what the positions are automatically and whatnot. Intrusion detection,

encryption, and firewalls and whatnot are only as good as the latest brain that came up, and that's the problem.

NIMDA was exactly what I was looking for. There are people out there who can get into anything. They can get into the government. If they can get into the government, they can get into our trading systems, and that's a major problem, and there is nothing that you can ever do to protect the entire universe. You can be 75-percent foolproof. The intrusion detection will stop everything from coming in. It'll shut you down when there is an intrusion, but that five percent is always going to be there, that one brain coming out of someplace in the world. It doesn't necessarily have to be out of any university. Just somebody who played the games.

If you remember the movie, I think it was Fail-Safe, when the kid got in, and he was into the -- he started the war games going?

MR. WOLKOFF: It was called War Games.

MR. GAMBARO: War Games? Is that what it was?

MR. WOLKOFF: With Matthew Broderick.

MR. GAMBARO: All right. It can happen, and you're never going to be able to stop it.

MR. LEITNER: I do think that this is -- brings us back maybe to the point that you started with, Commissioner Erickson, and Commissioner Newsome mentioned, which is the need for interagency coordination, because when you think about the kinds of things that can go wrong, well,

you think about concentration of risk, you think about single point of failure, and, you know, what's the worst that can happen. And as you develop scenarios that could be systemic, the answer is mitigating risk, because that's the best you can do sometimes after the fact, is by acting promptly with as much information as you can get in a concentrated way.

One of the things I raised at the last meeting, again to bring us full circle, since you were kind enough to mention my name, and I think what one of the points was, what powers do the regulators have or don't have to intervene in the event of a systemic crisis; for example, to declare that no trades occur. I mean nobody's at risk if nothing happened. And the only way to wipe the slate clean if somebody actually got into the system and wrecked it is to say it never happened. Who has the power to say it never happened. Now, some people will say it totally did happen because maybe they could profit from it, but, you know, thinking strategically, as someone suggested we ought, I think does involve the regulators also thinking strategically about what their authority is, and even at the exchange level, what the exchange's authority is, what the clearing house's authority is, and various things that could kind of go wrong.

So bringing us back, I think that examining not just what the CFTC's authority is but what the community of regulators' collective authority is because of the possible domino effect in the payment system as well as in a particular market to control that risk.

MR. DAVIDSON: I think Tony makes a really good point. I think one of the interesting facts about September 11 and the span of time the equity markets were closed was the proximity to the expiration of the September futures and options. It's a fairly unhealthy set of scenarios that you write that if it were two weeks that access to lower Manhattan had been constricted. I know a number of people had some conversations with a variety of regulators and the White House about how long really could you go without opening markets. The economic conditions do transpire even if the market is closed. The prices are moving even if you're not there to recognize them. So there's definitely some work that could be profitably done in that area.

COMMISSIONER ERICKSON: Okay. Thank you very much, and thanks for joining us, Chris and Michael. I appreciate it very much. We are right at 5:00 o'clock. Don't look at the clock. It's five after. But right on time.

One thing that I do want to mention before we wrap up is I've been asked by our Office of International Affairs to mention that IOSCO is -- well, as some of you may know, they have an Internet task force that examines trends and developments with Internet use in financial markets. The task force is planning to hold a series of roundtable meetings in the Americas, Europe, and Asia over the next year, and anyone interested in being a part of that can contact either Andrea Corcoran at the Office of International Affairs -- I don't know if Myra is still here or not, but if you haven't made -- but you can always call our office, and we can direct you as well.

We have tried to go on a schedule of two meetings a year, with roughly six months in between. The subcommittees I think have been pretty active and the two-meeting cycle seems to be working pretty well, because there's been an awful lot of activity and requirements on all of the volunteers on the subcommittees to put reports together. I think it's pretty clear that we've got the interim reports by the subcommittees. They've taken comments from today, and I think they're prepared to go back and continue their work with hopes of circulating documents that everyone can take a look at well in advance of the next meeting.

One of the issues that was brought to my attention during the break with respect to the market access subcommittee was the issue of error policies, error trade policies, and whether that's something that should be taken up for consideration as a part of that endeavor. I guess, absent any desire to talk about it, we can go ahead and assign them that task if it's all right, John?

MR. McPARTLAND: Sure.

COMMISSIONER ERICKSON: I had a couple of folks bring that to my attention during the break. And perhaps the best way to handle this expeditiously as we look ahead to short-term agenda items is to have a series of conversations. If anyone has some ideas about what items they'd like to have brought up, that would be fine. I've got a few things that were brought up in the May meeting and maybe some other issues that are timely, and I can circulate them via memo, and we could get some feedback, so we can plan ahead for probably April or May.

With that, thank you all again very much for being here. It's been very enjoyable for me. I appreciate it. (Whereupon the meeting was adjourned.)

STATE OF ILLINOIS)

) SS: COUNTY OF COOK)

I, Jo I. Gayle, Certified Shorthand Reporter and notary public in and for the County of Cook and State of Illinois, do hereby certify that I reported in shorthand the proceedings had at the meeting of the Commodity Futures Trading Commission Technology Advisory Committee, on Tuesday, the 27th day of November, 2001.

I further certify that the foregoing transcript is a true, correct, and complete record of the proceedings had before me on that day.

In witness whereof I have hereunto set my hand and affixed my seal of office at Chicago, Illinois, this ____ day of _____, A.D., 2001.

_____ Jo I. Gayle, C.S.R. C.S.R. No. 084-002285