

United States Election Assistance Commission

Standards Board

Held at
DoubleTree Hotel
At the Entrance to Universal Orlando
5780 Major Boulevard
Orlando, FL 32819

Thursday, February 26, 2009

The following is the verbatim transcript of the Standards Board meeting of the United States Election Assistance Commission (EAC) held on Thursday, February 26, 2009. The meeting convened at 8:34 a.m., EDT.

CHAIR BARTHOLOMEW:

Good morning. Welcome to the 2009 meeting of the Standards Board. At this time I'd like to call the meeting to order.

As our first order of business, I'd like to introduce to you our Executive Board. I'll start on my right. At the far end is our immediate past Chair, Sarah, and she is Sarah Ball Johnson from Kentucky. She's a state representative. Next in line is Dan English from Idaho. He's a local representative. And then, Peggy Nighswonger from Wyoming. She's a state representative. I'm Tonni Bartholomew from the city of Troy, Michigan. I'm a local representative. We'll skip over this guy to my left, not because he's any less important, because he's really important for this meeting. I'll go right to the next one, he's Russ Ragsdale from Colorado. He's a local representative. And then we have Chairman Gineen Beach, Commissioner, and she's our DFO from EAC. And then on the very end is Tamar, a very important person and Tamar is our legal counsel for this meeting. And I don't, Tamar, your last name?

MS. NEDZAR:

Nedzar.

CHAIR BARTHOLOMEW:

Nedzar, okay. So, with that I'm now going to turn the mike over to Russ Ragsdale and he is going to call roll.

MR. RAGSDALE:

Thank you Madam Chair. I'm going to start off with my disclaimer that if I do happen to butcher your name, it's certainly not out of disrespect. It is just my inability to phoneticize. So, let's get started. Alabama, Beth Chapman?

SECRETARY CHAPMAN:

Present.

MR. RAGSDALE:

George Ingram?

UNKNOWN FEMALE VOICE:

Present.

MR. RAGSDALE:

That voice sounded...

[Laughter]

MR. RAGSDALE:

...fraud. Alaska, Gail Fenumiai?

MS. FENUMIAI:

Present.

MR. RAGSDALE:

Shelly Growden?

MS. GROWDEN:

Present.

MR. RAGSDALE:

American Samoa, Soliai Fuimaono?

MR. FUIMAONO:

Present.

MR. RAGSDALE:

John Faumuina?

[Pause, no response]

MR. RAGSDALE:

Arizona, Reynaldo Valenzuela?

MR. VALENZUELA:

Present.

MR. RAGSDALE:

Arkansas, Janet Harris?

[Pause, no response]

MR. RAGSDALE:

Crystal Graddy?

MS. GRADDY:

Present.

MR. RAGSDALE:

California, Lowell Finley?

MR. FINLEY:

Here.

MR. RAGSDALE:

Stephen Weir?

[Pause, no response]

MR. RAGSDALE:

Colorado, Stephanie Cegielski?

MS. CEGIELSKI:

Present.

MR. RAGSDALE:

Russ Ragsdale? I believe I'm here.

MR. RAGSDALE:

Connecticut, Michael Kozik?

[Pause, no response]

MR. RAGSDALE:

Anthony Esposito?

[Pause, no response]

MR. RAGSDALE:

Delaware, Elaine Manlove?

MS. MANLOVE:

Present.

MR. RAGSDALE:

Howard Sholl?

MR. SHOLL:

Present.

MR. RAGSDALE:

District of Columbia, Errol Arthur?

[Pause, no response]

MR. RAGSDALE:

Jonda McFarlane?

MS. MCFARLANE:

Present.

MR. RAGSDALE:

Florida, Donald Palmer?

MR. PALMER:

Present.

MR. RAGSDALE:

Lori Edwards?

MS. EDWARDS:

Here.

MR. RAGSDALE:

Georgia, Karen Handel?

[Pause, no response]

MR. RAGSDALE:

Lynn Bailey?

MS. BAILEY:

Present.

MR. RAGSDALE:

Guam, Gerald Taitano?

[Pause, no response]

MR. RAGSDALE:

Hawaii, Scott Nago?

MR. NAGO:

Present.

MR. RAGSDALE:

Lyndon Yoshioka?

MR. YOSHIOKA:

Present.

MR. RAGSDALE:

Idaho, Timothy Hurst?

MR. HURST:

Here.

MR. RAGSDALE:

Dan English?

MR. ENGLISH:

Still here.

MR. RAGSDALE:

All right. Illinois, Daniel White?

[Pause, no response]

MR. RAGSDALE:

Richard Cowen?

[Pause, no response]

MR. RAGSDALE:

Indiana, Brad King?

[Pause, no response]

MR. RAGSDALE:

Shelly Parris?

[Pause, no response]

MR. RAGSDALE:

Iowa, Linda Langenberg?

[Pause, no response]

MR. RAGSDALE:

Janine Sulzner?

MS. SULZNER:

Present.

MR. RAGSDALE:

Kansas, Ron Thornburg?

[Pause, no response]

MR. RAGSDALE:

Donald Merriman?

MR. MERRIMAN:

Present.

MR. RAGSDALE:

Kentucky, Sarah Ball Johnson?

MS. JOHNSON:

Present.

MR. RAGSDALE:

Jack Snodgrass?

MR. SNODGRASS:

Here.

MR. RAGSDALE:

Louisiana, Angie LaPlace?

[Pause, no response]

MR. RAGSDALE:

Lynn Jones?

MR. JONES:

Present.

MR. RAGSDALE:

Maine, Julie Flynn?

MS. FLYNN:

Here.

MR. RAGSDALE:

Lucette Pellerin?

MS. PELLERIN:

Present.

MR. RAGSDALE:

Maryland, Nikki Trella?

MS. TRELLA:

Here.

MR. RAGSDALE:

James Massey?

MR. MASSEY:

Here.

MR. RAGSDALE:

Massachusetts, William Galvin?

[Pause, no response]

MR. RAGSDALE:

William Campbell?

MR. CAMPBELL:

Present.

MR. RAGSDALE:

Michigan, Susan McRill?

MS. MCRILL:

Present.

MR. RAGSDALE:

Tonni Bartholomew?

CHAIR BARTHOLOMEW:

Here.

MR. RAGSDALE:

Minnesota, Gary Poser?

MR. POSER:

Here.

MR. RAGSDALE:

Sharon Anderson?

MS. ANDERSON:

Present.

MR. RAGSDALE:

Mississippi, John Helmert?

MR. HELMERT:

Here.

MR. RAGSDALE:

Robert Harrell?

MR. HARRELL:

Here.

MR. RAGSDALE:

Missouri, Leslye Winslow?

MS. WINSLOW:

Present.

MR. RAGSDALE:

Richard Struckhoff?

MR. STRUCKHOFF:

Here.

MR. RAGSDALE:

Montana, Jorge Quintana?

MR. QUINTANA:

Here.

MR. RAGSDALE:

Duane Winslow?

[Pause, no response]

MR. RAGSDALE:

Nebraska, John Gale?

[Pause, no response]

MR. RAGSDALE:

David Dowling?

MR. DOWLING:

Here.

MR. RAGSDALE:

Nevada, Ross Miller?

[Pause, no response]

MR. RAGSDALE:

Harvard Lomax?

[Pause, no response]

MR. RAGSDALE:

New Hampshire, Anthony Stevens?

MR. STEVENS:

Here.

MR. RAGSDALE:

Robert Dezmelyk?

MR. DEZMELYK:

Present.

MR. RAGSDALE:

New Jersey, Robert Giles?

[Pause, no response]

[Cell phone played music]

MR. RAGSDALE:

Jimmy Buffet?

[Laughter]

MR. RAGSDALE:

Linda Von Nessi?

[Pause, no response]

MR. RAGSDALE:

New Mexico, Mary Herrera?

SECRETARY HERRERA:

Present

MR. RAGSDALE:

New York, Jeffrey Pearlman?

[Pause, no response]

MR. RAGSDALE:

Carolee Sunderland?

MS. SUNDERLAND:

Present.

MR. RAGSDALE:

North Carolina, Gary Bartlett?

MR. BARTLETT:

Here.

MR. RAGSDALE:

Deborah Bedford?

MS. BEDFORD:

Here.

MR. RAGSDALE:

North Dakota, I. James Silrum?

MR. SILRUM:

Here.

MR. RAGSDALE:

Michael Montplaisir?

MR. MONTPLAISIR:

Here.

MR. RAGSDALE:

Ohio, Jennifer Brunner?

SECRETARY BRUNNER:

Here.

MR. RAGSDALE:

Dale Fellows:

MR. FELLOWS:

Here.

MR. RAGSDALE:

Oklahoma, Thomas Prince?

MR. PRINCE:

Here.

MR. RAGSDALE:

Doug Sanderson?

[Pause, no response]

MR. RAGSDALE:

Oregon, John Lindback?

MR. LINDBACK:

Here.

MR. RAGSDALE:

Dana Jenkins?

[Pause, no response]

MR. RAGSDALE:

Pennsylvania, Chet Harhut?

MR. HARHUT:

Here.

MR. RAGSDALE:

Regis Young?

MR. YOUNG:

Here.

MR. RAGSDALE:

Puerto Rico, Néstor Colón-Berlingeri?

MR. COLÓN-BERLINGERI:

(Responded in Spanish).

MR. RAGSDALE:

María Santiago-Rodríguez?

MS. SANTIAGO-RODRÍGUEZ:

Here.

MR. RAGSDALE:

South Carolina, Marci Andino?

MS. ANDINO:

Present.

MR. RAGSDALE:

Marilyn Bowers?

MS. BOWERS:

Present.

MR. RAGSDALE:

South Dakota, Kea Warne?

[Pause, no response]

MR. RAGSDALE:

Patty McGee?

MS. MCGEE:

Here.

MR. RAGSDALE:

Tennessee, Brook Thompson?

[Pause, no response]

MR. RAGSDALE:

Joe Enoch?

[Pause, no response]

MR. RAGSDALE:

Texas, Ann McGeehan?

MS. MCGEEHAN:

Here.

MR. RAGSDALE:

Dana DeBeauvoir?

[Pause, no response]

MR. RAGSDALE:

Utah, Michael Cragun?

MR. CRAGUN:

Here.

MR. RAGSDALE:

Robert Pero?

MR. PERO:

Here.

MR. RAGSDALE:

Vermont, Kathleen DeWolfe?

[Pause, no response]

MR. RAGSDALE:

Melissa Ross?

MS. ROSS:

Here.

MR. RAGSDALE:

Virginia, Valarie Jones?

MS. JONES:

Present.

MR. RAGSDALE:

Allen Harrison?

MR. HARRISON:

Here.

MR. RAGSDALE:

Virgin Islands, John Abramson?

MR. ABRAMSON:

Here.

MR. RAGSDALE:

Corinne Plaskett?

MS. PLASKETT:

Here.

MR. RAGSDALE:

Washington, Nick Handy?

MR. HANDY:

Here.

MR. RAGSDALE:

Kristina Swanson?

MS. SWANSON:

Here.

MR. RAGSDALE:

West Virginia, Susan Silverman?

MS. SILVERMAN:

Here.

MR. RAGSDALE:

Gary Williams?

[Pause, no response]

MR. RAGSDALE:

Wisconsin, Nathaniel Robinson?

MR. ROBINSON:

Here.

MR. RAGSDALE:

Sandy Wesolowski?

MS. WESOLOWSKI:

Here.

MR. RAGSDALE:

Wyoming, Peggy Nighswonger?

MS. NIGHSWONGER:

Here.

MR. RAGSDALE:

Julie Freese?

MS. FREESE:

Here.

MR. RAGSDALE:

Madam Chair, we have 73 in attendance.

CHAIR BARTHOLOMEW:

Was there anyone's name that was not called for roll call?

At this time we do have a quorum. We will move forward with our general business and the regular meeting of this day.

At this time I'd like to take care of some appointments. The very first one I'd like to take care of is the appointment of our Parliamentarian. And that will be Bill Campbell from Massachusetts. I told you he would serve a very important function, and that's his.

Moving on, I'd like to make the appointments to the Proxy Committee. At the time of the start of this meeting, I was in receipt of two proxies. I have turned them over to the Chair. The Chair will be Gary Poser from Minnesota. Also serving will be Nikki Trella from Maryland, Sue McRill from Michigan, Corinne Halyard

Plaskett, sorry, from the Virgin Islands, and Anthony Stevens from New Hampshire.

Then on to the Resolutions Committee. I'd like to appoint Peggy Nighswonger from Wyoming as Chair, James Silrum from North Dakota, John Lindback from Oregon, Ann McGeehan from Texas, Dan English from Idaho.

And the appointment of the Elections Certification Committee -- Lynn Bailey, Georgia, as Chair; Shelly Growden, Alaska; Regis Young, Pennsylvania; Julie Freese, Wyoming; Néstor Colón-Berlingeri, sorry Néstor, from Puerto Rico. And that's the appointment of the committees.

On the table in front of you there is an important reminder sheet. I'd like to bring attention to that. If possible, if you have a BlackBerry, if you could take it off of the network. It does interfere with the microphone system. So you can have it on, but please don't have it connected to the network. Also, if you could take them off of ring and onto vibrate, we would appreciate that. And, if you could remember to say your name and where you are from prior to speaking for our recording secretary. The microphones can only be activated by pushing the green button. Please push it on and turn it off as you use it. It is my understanding that we may only have four of them operating at any given time, so, if you can please

remember to disconnect as well as connect. And that is it for our general little reminders.

You have been provided with a notebook. If you don't have your notebook, they are available, as well as your name tags and your tents, out in the hallway. We will now move on to the adoption of the Agenda if there are no further questions on the general...

Can I have a motion to adopt the Agenda?

MS. JOHNSON:

I make the motion.

CHAIR BARTHOLOMEW:

I have a motion from Sarah Ball Johnson, Kentucky, to adopt the Agenda as printed. Any second?

MR. FELLOWS:

Second.

CHAIR BARTHOLOMEW:

Dale Fellows from Ohio seconded the motion. All in favor of adoption of the Agenda as presented, say aye.

[Ayes]

CHAIR BARTHOLOMEW:

Opposed, say no.

[No responses]

CHAIR BARTHOLOMEW:

The motion is accepted.

Now we can, we will finish off with the adoption of the Minutes. I'd like to direct your attention to the Minutes being behind the Table of Contents in your notebook. And I'd like to turn the mike over to Dan English.

MR. ENGLISH:

If you can look through the, well the Minutes are in the first section and everybody should have had them before now. I'll give just a moment to do another quick review.

And then Madam Chairman, I'll make a motion that the Minutes be approved as presented.

CHAIR BARTHOLOMEW:

I have a motion from Dan English to approve the Minutes as presented. Do I have a second?

MS. MCFARLANE:

Second.

CHAIR BARTHOLOMEW:

I have a motion and a second to approve the Minutes as presented. Any questions?

MR. MERRIMAN:

Madam Chairman, Don Merriman from Kansas. I just noticed in that first sentence it says, there's a little typo in there about the year, it's 2008 instead of 2007, December 12-14, 2008. That's just a minor typo there.

CHAIR BARTHOLOMEW:

Thank you. Can I have the name and location of the seconder again please?

MS. MCFARLANE:

Seconder was Jonda McFarlane, D.C.

CHAIR BARTHOLOMEW:

Any further questions or concerns with the Minutes? Okay, I have a motion on the floor to adopt the Minutes, as amended. Motion has been seconded. All in favor say aye.

[Ayes]

CHAIR BARTHOLOMEW:

Opposed, say no.

[No response]

CHAIR BARTHOLOMEW:

The motion is adopted.

At this time I would like to introduce our DFO. We were privileged to receive a new DFO and new Commissioner recently. And our Commissioner and DFO is Gineen Beach. Gineen Beach was nominated by President George Bush, and confirmed by the United States Senate on October 2, 2008, to serve on the U.S. Election Assistance Commission. Ms. Beach was elected Chair of the EAC for 2009. Her term of service extends through December 12, 2009. Prior to her appointment with the EAC, Commissioner

Beach was Minority Election Counsel for the Committee on House Administration. She previously served as a policy advisor to former Maryland Governor Robert L. Ehrlich, Jr., where her primary area of focus was on election law. She also served as an attorney advisor for the U.S. Patent and Trademark Office, where she reviewed and prosecuted applications for Federal Trademark Registration. She also served as a judicial law clerk for the Honorable Arrie W. Davis in Maryland Court of Special Appeals. I'd like to introduce to you Commissioner Beach.

COMMISSIONER BEACH:

Good morning, and I want to thank all of you for participating here in the first EAC Standards Board meeting of 2009. As most of you know, I am the new EAC Commissioner, as well as the new Chair of the EAC. And, Tonni has given you a little bit about my background. Just to expand on it a little more, my first exposure to Election Law was when I worked for Governor Ehrlich of Maryland. And when he took office in January 2003, he handed me this and said, "Okay, what does this mean?" So, all of you would know HAVA is a very complicated piece of legislation, so it certainly took up a lot of my time. And in addition to HAVA-related issues, because it was the first time that we had to submit a State Plan and comply with the particular regulations, there was also a lot of state election law issues that were under consideration, in addition to

new machines, testing, security issues, alike. So, I do have experience in that area on the state level. And also, as Tonni said, I served as Counsel for the Committee on House Administration. For those of you who don't know, the House Administration Committee does have jurisdiction over the EAC, and is our oversight Committee. So, I became very familiar with the inner workings of the EAC at that time. So, as you can see, I am confident that my knowledge and experience about election administration will serve me well at the EAC, but more importantly, I believe, will serve you well as your DFO. And I also understand how election initiatives move through Congress, and how important it is that staff and members get input from people outside of Washington, like all of you. And my commitment to all of you is that I will do my best to make sure your voices are heard and that real world considerations are part of discussions. I will also look to all of you as a resource, a sounding board, and a partner to make sure election administration initiatives are sound, practical, and based upon the needs of the voter.

And at this point, as you know, we are here today because the Standards Board is to advise the EAC through the review of the Voluntary Voting System Guidelines. We are also meeting here in February because we have the election of our Executive Board. The makeup of the EAC, for those of you who don't know and are

new, the EAC Standards Board is defined in HAVA, and there are up to 110 members and we currently have 105 serving. Half of the membership are state election officials and the other half are local election officials. HAVA prohibits any two members from a state to belong to the same political party. And some of you may be wondering, as myself who are new, how in the world a 110 member Board is able to ever accomplish anything. Well, this Board has accomplished a lot and delivered invaluable assistance and guidance to the EAC. And upon reviewing your work product over the past year, past few years, I would certainly agree. Perhaps most valuable among your contributions was your involvement in the first draft of the VVSG back in 2007 in Austin, Texas. You passed 14 resolutions and they are contained in your binder. For those of you who are new, I would urge that you review them all, and if you want to look at anything that the Standards Board has done in the past, and other additional background information, feel free to go to our website, www.eac.gov.

In addition to the VVSG, I want to make a plea to all of you today and ask for your commitment to provide input to the EAC on advisories, guidance, grants and studies that we are accomplishing this year. The EAC routinely puts out advisories, guidance, strategic plans, etc., out for public comments. And I would invite all of you to review them and submit comments. In addition to

submitting public comments, something that we are developing right now, and in the process of, is a Working Group Policy. This is something that Commissioner Hillman has been working on, with the goal of providing diverse voices on various issues. And we are looking to all of you, that if you're interested in participating in these working groups, to certainly contact us. These working groups will provide input and individual opinions on the implementation of HAVA, NVRA, and other internal initiatives.

While I said I have significant experience on election administration issues, I'll be the first one to tell you I've never administered an election. So, it is vital for me, and I know for several of my colleagues, to make sure we have your comments and your input as we go through and consider issues that directly affect all of you and how you administer elections in your states and in your local jurisdictions.

At this time, too, I also wanted to take the opportunity to introduce to all of you, I know some of you have had contact with her, Sharmili Edwards, is she in the room? She's at the, okay, well, when she comes back in. Sharmili is my Special Assistant and Counsel, and she has worked tirelessly with me to help set up this Standards Board meeting and make this event successful. And if you ever need to get in touch with me or her, I just wanted to make

sure you all knew who she was. Sharmili is in the back of the room. Any questions or information, she is there for you.

Now, looking ahead to 2009, I know my colleagues would agree with me, all of you did a great job this past November for the Presidential Election. You had contingency plans in place, you were ready for big crowds, you were nimble and ready to adapt, and you also performed extremely well under intense pressure and scrutiny. And I would say, being a former Congressional Staffer, you successfully handled all the election issues that were highlighted during our last year in Congress, through our Congressional Hearings. As I said earlier, from my experiences at Congress, hearing from state and local election officials provides invaluable input as members consider legislation. Congress already hears from a wide variety of people who do not work in elections, so it is important for them to hear from people like you who do.

As far as my goals for 2009 at the EAC, my goals are two-fold. One, is to focus on internal initiatives to maximize the use of taxpayer dollars and increase efficiency. Two, is to serve as a resource of information for election officials, especially those at local levels who are currently strapped for resources. One way that the EAC can assist you in this, is that we offer user-friendly, verticentric deliverables such as management guidelines and

training materials, quick-start guides. I know some of you have used them. If you haven't and want information, I believe you probably have some here on site that you can take with you. We also have training videos on polling place management and other areas that would be useful, so I encourage all of you to take advantage of that as a way that you don't have to spend some of your resources and we can help you with that. And some of the best solutions do come from you. So that's why I will involve you in the formation of these materials as we move forward.

Another area that would be helpful to all of you, I believe, is our clearinghouse. And to make sure we provide real value to all of you, I will ask you to contribute to it. Whether you have reports or things that have worked, best practices, please submit that to us so we can post it on our clearinghouse.

As far as issue areas, two main ones that I'm looking at this year, of course, are testing and certification, and issues surrounding UOCAVA voters. With testing and certification, my colleagues and I certainly recognize the burden that this process has had on all of you. This is something that I heard routinely as a Congressional staffer, that that was a problem, and something that all of you need to move forward your elections is to have machines that are certified. So, as Chair, my priority will be to make sure that this program has the necessary resources. And I will also tell you

efforts, if you don't know, are underway to reduce redundancies, prevent overlap with state and federal testing, and speed the testing process with our Unified Testing Initiative. This is a program that we have, that we discussed in our kickoff meeting in Miami last month, and something that our testing and certification group is working on.

As for UOCAVA, I know you will hear later a report from NIST, but I know some of you have taken initiatives and demonstrated leadership and implemented pilot programs in this area during this past election cycle. I ask that you share these with the EAC so we can share your successes with everybody else and better serve our military and overseas voters to ensure that ballots get back in time and in a timely manner to be counted. I know that's one issue, from our Election Day survey back in 2006, was that the timely transmission of ballots was a problem, and there were several UOCAVA voters that were disenfranchised. So, if there are ways, creative ways, that you are looking to in your jurisdictions, please share that with us. And it will be particularly helpful as Congress reviews this issue. I would imagine they would in the 111th.

Just some closing remarks. For those of you who don't know, Commissioner Rosemary Rodriguez has resigned her position at the EAC and accepted a position with U.S. Senator

Bennet from Colorado as his State Director. We'll certainly miss Commissioner Rodriguez, and wish her well on her new adventure. Commissioner Rodriguez was certainly committed to implementing HAVA, and has worked tirelessly during her tenure at the EAC on behalf of America's voters. So, we wish her well and hope that she continues in her capacity.

Also, I'd like to recognize Emily Jones, where is she, our events coordinator? She also stepped out? Emily has also worked very hard to make sure that we have a successful and productive meeting, so I want all of you to join me in thanking her. She helped pick the great venue, and thank you for your work Emily.

[Applause]

COMMISSIONER BEACH:

Again, I want to reinforce to all of you again how your role as a Standards Board member at the EAC is crucial to our work and I look forward to working with each and every one of you, and meeting each and every one of you, and serving as your liaison to the EAC. Thank you.

[Applause]

CHAIR BARTHOLOMEW:

Commissioner Beach, could I ask that you would also introduce any other EAC staffers and any other Commissioners that might be present?

COMMISSIONER BEACH:

Absolutely. We have Commissioner Donetta Davidson.

[Applause]

COMMISSIONER BEACH:

Is our Vice-Chair Gracia Hillman in the room? I don't know if she had entered when, is she here?

UNKNOWN:

No.

COMMISSIONER BEACH:

Okay, we have Tom Wilkey, our Executive Director.

[Applause]

COMMISSIONER BEACH:

We have our Chief Operating Officer, Alice Miller.

[Applause]

COMMISSIONER BEACH:

We have sitting to my left, Tamar Nedzar, who is one of our General Counsels.

[Applause]

COMMISSIONER BEACH:

And in the back of the room we have Robin Sargent.

[Applause]

COMMISSIONER BEACH:

We have Deanna Smith.

[Applause]

COMMISSIONER BEACH:

And we have Stacie Fabre, who is Commissioner Rodriguez'
Special Assistant.

[Applause]

COMMISSIONER BEACH:

And we also have Julie Ruder, who is Commissioner
Davidson's Special Assistant.

[Applause]

COMMISSIONER BEACH:

And Sarah Litton from our Communications Office.

[Applause]

COMMISSIONER BEACH:

I think I covered everybody. We do have Matt Masterson
from our Testing and Certification Division. Is he, I know I saw him
earlier.

COMMISSIONER BEACH:

And I believe we may have some other staff that will be
coming, okay, that's it.

CHAIR BARTHOLOMEW:

Thank you very much. As you noticed probably by looking at
your watch and the Agenda, we are moving forward very quickly.
And so, I am going to ask for a little flexibility and bypass our break,

which would be awfully early in the morning at this time, and move into Committee Reports. So, if there's no complaints, I'll move forward with the items of the Agenda, and we will break somewhere down the road. So with that, we'll turn it over, initially, to our By-Laws Committee and the Chair, William Campbell, for a report and a presentation of the By-Laws.

MR. CAMPBELL:

Good morning. The By-Laws Committee was appointed, there's a report from the By-Laws Committee in your binder. It's behind Tab 1. I won't read the whole report, I'll summarize. The By-Laws Committee was appointed in November of 2008 for the purposes of soliciting by-laws for this meeting. At that time the membership of the Committee consisted of Marilyn Avery from Mississippi, Timothy Hurst from Idaho, Howard Sholl from Delaware, Brad King from Indiana, Tonni Bartholomew as an *ex officio* member, and myself as Chair.

It was determined that any by-laws to be submitted for consideration at this meeting had to be submitted to the DFO by December 18, 2008. That was consistent with Article X of our by-laws. No by-law submissions were received from the Committee, from the general membership, but it was noted at the meeting last year, December 14, 2007, a proposed by-law was submitted at the Standards Board meeting to the By-Laws Committee for

consideration. The By-Laws Committee submitted, on behalf of the Standards Board, that proposed amendment which stated, as you'll find in the middle of the first page of the report, "Establishing a new Article V(1)(e) as follows:

'An Executive Board member shall immediately notify the Executive Board of any change made in the member's party affiliation while serving as a member of the Executive Board.'

That proposal was submitted to the Office of the General Counsel who provided some comments. And the two comments, briefly, were, one, the major substantive comment was there should be a remedy if it was determined that there was more than five members of a party on the Executive Board. The second comment was more procedural and suggested that the DFO be notified as well. We provided in our report a history of the standard which requires that the Executive Board have no more than five members of one political party. The question arose, and I just offer this as clarification, there can't be more than five members of a political party on the Executive Board. It doesn't mean that the Board is going to be more out-of-balance than those five. For example, if we have nine members of the Board and five are Republicans and four are Democrats, and two Democrats resign from the Board, and

there are vacancies, it is now five and two. That's not the issue. The issue is, if we have five Republicans and four Democrats, and one of the Democrats changes political party and is now a Republican. We'll now have six Republicans, which violates all the documents, it violates HAVA, it violates our Charter, and it violates our By-Laws. So, the issue then became, "how do we remedy that?" And there were several possibilities. You could have a new election, have everybody up for election from that party. But it seemed to the Board that you could create mischief if you required everybody from that same political party to be up for reelection again. One member of an opposite party could switch to turn the balance and have the whole other party have to stand for reelection. So, we decided at the end of the day, taking into consideration the advice of Counsel, that the person who changes party should be the one at risk. With that, we suggested a second sentence be added to the By-Law, so that the By-Law will now read:

'An Executive Board member shall immediately notify the Executive Board of any change made in the member's party affiliation while serving as a member of the Executive Board, and the DFO', we did recommend that that be added.

'If such change in the member's party affiliation results in more than five members of the Executive Board being of the same political party, a vacancy shall be present in the seat of the member who changed party affiliation.'

And under the By-Laws, the Executive Board can then appoint somebody to fill that vacancy. So the recommendation of the By-Laws Committee was to adopt that amendment as I just read. Thank you.

CHAIR BARTHOLOMEW:

Are there any questions regarding that proposed By-Law? Any comments? Would you like to introduce that as a motion?

MR. CAMPBELL:

I make a motion that the proposed By-Law amendment be adopted as recommended by the By-Laws Committee.

MR. STEVENS:

Second.

CHAIR BARTHOLOMEW:

I have a second from Anthony Stevens from New Hampshire. Are there any amendments to the motion? Hearing no amendments, all in favor of the motion as presented please say aye.

[Ayes]

CHAIR BARTHOLOMEW:

Opposed, say no.

[No responses]

CHAIR BARTHOLOMEW:

The amendment is adopted.

Are there any other recommendations for by-Law amendments to go to the Committee for review over the next few months before this body will meet again?

Lynn Bailey?

MS. BAILEY:

Lynn Bailey, Georgia. The Nominations Committee will have a recommended change that I would like to explain during the upcoming report, if that suits the Chair. Or, should I go ahead and explain it now?

CHAIR BARTHOLOMEW:

Knowing what the detail is, it might be best to bring it up during the Nominating Committee report. So, unless I hear any other statements to the contrary, we will let her hold off until that time. At that time the Board has also questioned another By-Law potential amendment and I would like to bring that up at that time as well. If there are no concerns? Okay, we will move on to our next Committee report, which is the Nominating Committee report.
Lynn Bailey.

MS. BAILEY:

Good morning. I'd like to start off by introducing the members of the Nominating Committee. First we have Julie Freese from Wyoming here; Nick Handy from Washington; Jim Silrum, North Dakota; Tonni Bartholomew, *ex officio*; and myself, Lynn Bailey, as Chair.

As was the case with the By-Laws Committee, there is a full report in your briefing book that will provide more details, and I will also summarize. The Nominations Committee initially met on November 21st to begin the process, the nominations process, for this year's elections. At that time the Committee determined that there were five state seats and two local seats that were to be filled at the election this year. The call for nominations was sent out to Standard Board members on November 26th, and at the close of the nomination period we had six state candidates, or nominees, that had offered themselves, and we had three local. Subsequently, one of the local nominees withdrew, leaving us with six state and two local.

The Committee then worked within the boundaries of the By-Laws, and in consultation with Design for Democracy, in order to design the ballot that you will see when you go to cast your ballot today.

We currently have one vacancy on the Committee. And, as for the recommended By-Law change, we had, the By-Laws provide that absentee ballots be made available to the members if they are not able to attend the meeting. They also provide that those voted absentee ballots must be returned to the DFO eight days before the date of the meeting. We had one ballot that was hand-delivered today and the Committee, of course, pursuant to the By-Laws as they read right now, we are unable to count that ballot. We would like to propose that consideration be given to being able to accept these absentee ballots up to the beginning of the meeting, as is the case with the accepting of proxies. So that would be our recommendation for a possible by-law change.

Moving on, just a brief statement about the election procedures that you will see today, first of all, the voting room is the Hillsboro Room which is just out this door and across the hall. The time for voting will be in the afternoon from 3:30 to 4:15. Pursuant to our By-Laws, there will be no nominations accepted from the floor, and also, if you are carrying a proxy vote for another Standards Board member, that proxy vote is not valid in voting for members of the Executive Board. You will find bios for each of the candidates in your packet and also the candidates will be making a brief presentation at lunch to introduce themselves to you and let you get to know them a little better.

And finally, the Committee would like to especially thank Sharmili Edwards, who is Commissioner Beach's Special Counsel, for all of her untiring administrative help during this process. She was wonderful and just did a terrific job for us. And we'd also like to thank Bill Cowles, who is the Election Superintendent here in Orange County, Florida, who has graciously agreed to let us borrow voting equipment. His office staff printed and designed the ballot for us and they will come in and provide technical support today during the conduct of our election. So he has been very gracious in setting up things for us.

Thank you.

CHAIR BARTHOLOMEW:

At this time, could you put your proposed amendment in a motion to the By-Laws Committee?

MS. BAILEY:

I will. I move that the By-Laws be changed to allow the receipt of absentee ballots up to the beginning of the Standards Board meeting.

CHAIR BARTHOLOMEW:

Is there a second on that motion?

MR. FELLOWS:

This is Dale Fellows, Ohio.

CHAIR BARTHOLOMEW:

I have a motion on the floor to refer to the By-Laws Committee an amendment, and a second. Are there any questions or amendments to the motion? Hearing no questions or amendments, all those in favor say aye.

[Ayes]

CHAIR BARTHOLOMEW:

Opposed, say no.

[Pause, no responses]

CHAIR BARTHOLOMEW:

Motion adopted.

In addition to that particular motion, during this whole process of planning this particular meeting, we, we the Board, discussed the issue that the meeting is really occurring, because HAVA requires that this Board election take place at this meeting. And the timetable is very tight. It has to be handled and accomplished before the end of this month. And so, it forced the time of this meeting to be a little premature for some of the business that we needed to take into consideration, because the materials were not ready at the time of the meeting. So, it provides for a little bit of a conflict. The Board would like to refer to the By-Laws Committee, for their review and possible adoption, the potential of an all-mail election, similar to the absentee balloting. There are some issues with HAVA that have to be addressed

dealing with a quorum and things of that nature. What that would allow us to do would be to most likely have this meeting later in the summer, when the VVSG recommendations are ready for review, and things of that nature that just can't be accomplished in the timetable that we are tied to.

So, with that, I would like to ask for a motion from one of the Board members to move that on to the By-Laws Committee for their study and possible bringing forth a motion for an amendment.

MS. NIGHSWONGER:

Peg Nighswonger, Wyoming, and I move Tonni's motion that the time frame be changed for the, well actually, not the time frame, but that the election could be held by an all-mail ballot.

CHAIR BARTHOLOMEW:

Do I have a second on that motion?

MR. ENGLISH:

I'll second. Dan English, Idaho.

CHAIR BARTHOLOMEW:

So, the motion is to move to the By-Laws Committee for study, a proposed amendment to the By-Laws to consider an all-mail election and the different other elements that would need to be addressed, such as quorum, for their study and a recommendation back to the Standards Board at our next meeting. The motion has

been seconded. Any questions or concerns? Any amendments?
Hearing none, all in favor say aye.

[Ayes]

CHAIR BARTHOLOMEW:

Opposed, say no.

[Pause, no responses]

CHAIR BARTHOLOMEW:

Motion adopted.

Thank you Lynn.

At this point in time you can see we are still aggressively making our way through this Agenda and we have kind of worked ourselves into a little bit of a quandary. It's time now for the Proxy Committee to give their report, but the Proxy Committee has not been able to get together and to review the proxies to give a report. So we'd like to, with your indulgence, move for a mini-break right now and we can pull the Resolutions Committee together to give them their proposed resolutions that we currently have on hand, and then ask that the EAC and John Wack possibly move up their presentation a little bit earlier on the Agenda, because we are flying through this. And we will build-in time, then, around the lunch hour. If that's okay with all, then we will take a short break.

MR. POSER:

Madam Chair, Gary Poser from Minnesota. Just for the Proxy Committee members, we'll just meet at the front of the room, here, during this little break, then, to have our discussions.

CHAIR BARTHOLOMEW:

If we could have the Proxy Committee come up and move right to this area for a mini-meeting, and then the Resolutions Committee over on this side for a little mini-meeting. And the rest of you can grab a cup of coffee if there's no concerns. I'll give you 10 minutes, 15 minutes? Okay, 15 minutes.

[The meeting took a break from 9:19 a.m. until 9:49 a.m.]

CHAIR BARTHOLOMEW:

Welcome back. At this point in time we're going into a report from the Proxy Committee. Gary Poser, if you could please give your report.

MR. POSER:

Thank you Madam Chair. Gary Poser from Minnesota. The Proxy Committee met at the beginning of break and we reviewed two proxies that had been received. And after discussion, we did approve the two proxies. So, Lynn Bailey is the proxy representative for Secretary Handel of Georgia, and Sara Ball Johnson of Kentucky is the proxy representative for Brad King of the state of Indiana. So we did meet and discuss those two.

We also had some discussion that we would also like to bring forward to have the, a proposal to have the By-Laws Committee review as well. So that discussion was centered around an email which was used as a proxy to designate the proxy, and there was some discussion as to whether or not a signature should be involved when the member, when they are delegating somebody else as their proxy. So our proposal would be to have the By-Laws Committee review whether or not something should be added to the By-Laws regarding needing a signature to designate your proxy or if an email would suffice. And I would make that motion.

CHAIR BARTHOLOMEW:

Okay, I have a motion on the floor for a by-law to be proposed to the By-Laws Committee regarding the proxy requirement procedure. Do I have a second?

MR. STEVENS:

Second by Anthony Stevens.

CHAIR BARTHOLOMEW:

Second from Anthony Stevens. Do I have any questions or amendments? Hearing none, all in favor of the proposed recommendation to the By-Laws Committee please say aye.

[Ayes]

CHAIR BARTHOLOMEW:

Opposed, say no.

[Pause, no responses]

CHAIR BARTHOLOMEW:

Motion carried.

Russ Ragsdale?

MR. RAGSDALE:

Madam Chair, I'd just like to notify the Committee, we've had some late arrivals and make sure their names are entered into the record, their attendance. We have Jeffrey Pearlman from New York, Stephen Weir from California, and, I believe we have a third, Robert Giles from New Jersey. Is Robert here? Okay, bad information. All right, was there anyone else who has showed up since the roll call this morning? So it would just be those two.

CHAIR BARTHOLOMEW:

Thank you very much.

If we could now move to a report from our Resolutions Committee, the Chair, Peg Nighswonger.

MS. NIGHSWONGER:

Thank you, Madam Chair. Isn't she doing a good job today?

[Applause]

MS. NIGHSWONGER:

Nerve-wracking, you know, when you're up here doing this. I experienced that already.

The Resolutions Committee met on our break and there were three resolutions that were handed to the Committee that were brought forward actually by the Executive Board, because we met yesterday. And there are some more that are coming. What we'd like to have you do, if you would like to bring a resolution from the floor, if you could have those resolutions in to us by end of day today. Sharmili, raise your hand, Sharmili has the forms. If you can submit them electronically, it would really be awesome. And you can put your electronic signature on there. No, but she does have the forms and I'm sure she would be happy to get them to the person that will be typing them up to have them on the screen. But if you can submit them to us electronically, that would be awesome. So, by end of day, get them to me, and I will get them to where they need to go. So, any questions from anyone about submitting a resolution? Okay, and then our Committee will meet as soon as the day ends today. We will kind of get our heads together and get this process going for our resolution section tomorrow.

Thank you.

CHAIR BARTHOLOMEW:

At this point in time, I'd also like to let you know that we're going to be moving forward with our presentation on the VVSG Report. After that report we probably will have a bit more time than we initially planned for because of the speed at which we've been

moving this morning. So we're going to put some additional padding between the meeting and lunch. Lunch will occur at the same time that it is slated on the Agenda, at 12:15, and it is in the room, Sharmili, is it right behind us?

MS. EDWARDS:

Directly behind us.

CHAIR BARTHOLOMEW:

Directly behind us.

MS. EDWARDS:

Seminole B.

CHAIR BARTHOLOMEW:

Seven, Seminole B?

MS. EDWARDS:

Seminole B.

CHAIR BARTHOLOMEW:

Seminole B. And at that point in time you'll be receiving the little speeches from your candidates and they'll be prepping you for your voting that will occur later in the day. So, without further, I will turn it over to Matt Masterson.

MR. MASTERSON:

Well good morning to all of you. My name is Matt Masterson. I'm the Attorney Advisor to the EAC's Testing and Certification Program. And I want to thank Chairwoman Beach and

the Executive Board of the Standards Board for giving me this opportunity to talk to you all about what the EAC is doing with regards to the VVSG, both the next generation of the VVSG and, more specifically today, the revisions that we're looking to do the 2005 VVSG. So, John Wack from the National Institute of Standards and Technology, I think, is going to get a little more in depth with you all about what we're talking about, the sections of the Standard that we're talking about and whatnot.

What I want to talk to you very briefly about today is, sort of, how we got here, why we're doing what we're doing, and the importance of the project that we're doing with the 2005 VVSG. So, before I get started I think it's important, sort of, to set ground work for definitions so that we're all working from the same page on what we're talking about here.

So, the first definition, and I know John will get into this in his presentation as well, but I think it's a good idea to start here, is the 2005 VVSG. And the 2005 VVSG is the set of voluntary voting system guidelines that the EAC Commissioners voted on and adopted in 2005, to be used in our testing and certification program. And we are currently testing systems to the 2005 VVSG, have certified a system to the 2005 VVSG, and we'll test modifications, all modifications submitted to the 2005 VVSG.

The next, sort of, term that we'll be looking at is, this idea of the next iteration of the VVSG. And when we say that, what we mean is, our Technical Guidelines Development Committee at the EAC, submitted to us, in August of 2007, a set of recommendations regarding the next set of standards. And this Board offered Resolutions on those sets of standards, those recommendations. And we are currently working with those recommendations, and I'll talk a little bit about what the plan is there. But, when we refer to the next iteration of the VVSG, what we're talking about is those recommendations from the TGDC that we're working with currently.

The final term that will be thrown around here in the next two presentations is this concept of a 2005 VVSG Revision, or a Revised 2005. And we use that term just for now for context. And what that is, and what I'm going to be talking about here briefly, and then John will go into more detail on, is the EAC is currently working to take the version of the 2005 VVSG that we have and update it, make it state-of-the-art, make it so that a lot of the concepts, the ambiguities in there, are clarified. And the way that we are doing that is taking the sections from the next iteration of the VVSG that apply and plugging them into the 2005 VVSG. That is how we're revising. There is a lot of good stuff, really, really good state-of-the-art stuff in the next iteration and our goal is to take that stuff and use it now, instead of pushing it back to when we finalize

this next iteration of the VVSG. There's a lot that goes into finalizing that, there's then lag time for the vendors to design to that next iteration, to certify or accredit our labs to that next iteration, and we wanted to get that good stuff that's in there, that we could, in the 2005 now. And we'll talk a little bit about how, the criteria that we used to choose some of that stuff from the next iteration and the idea behind that.

So, those are the terms we're going to be throwing around – the 2005 VVSG, the next iteration of the VVSG, and then this concept of a 2005 VVSG Revision, which is taking portions of that next iteration and putting it in.

So, the first question, I think, we need to answer for all of you is, "Why are we looking to revise the 2005 VVSG?" "What's the purpose?" And, as I just stated, it really is to create, or to continue to use a standard that is up-to-date, that is not obsolete, and that clarifies ambiguities. And this came about during our public comment period for the next iteration of the VVSG. We heard from the Standards Board, we heard from the Board of Advisors, and the EAC held a series of seven roundtable discussions with various stakeholder groups regarding this next iteration of the VVSG. And one of the things that we heard, unanimously, is that there was some really strong, good stuff in this next iteration. And that didn't just come from one group or the

other. Really, unanimously, across the board at these roundtables, people said, "Hey, a lot of this stuff, these coding standards, you know, some of the concepts for the volume testing, these are really good. These are strong, good standards that we think could be useful now." And so, we started thinking how can we start applying some of these concepts now and improve the 2005 VVSG now?

The other part of this, was that there was agreement that many of the implementation concepts for the next iteration were going to push that next iteration back into, you know, some had talked timetables from 2012 to 2014, it's hard to say. But, the reality is that the manufacturers must design for this new standard, our test labs must be reaccredited to this new standard, and there's a lot of stuff in there that we need to reaccredit to. A really good example is some of the human factors testing that was proposed in the next iteration requires us, really, to work with our labs to develop that expertise. And that's a very big challenge. Our labs don't have those in-house human factors testers right now. So, that's something we need to work with them to develop and validate test methods to for them. And so, when we were looking at the 2005 VVSG, and the next iteration, we wanted to see how we can get some of that stuff that we require reaccreditation of our labs, and we require major changes to the systems, but would improve the testing now.

And that leads into the next reason why we looked to revise the 2005 VVSG. And that's to improve our testing and certification program now. I'm sure some of you have, and hopefully a lot of you have, followed our testing and certification program, the testing we're doing now. One of the major challenges that we have run into in our testing and certification program is some of the ambiguities in the 2005 VVSG. Some of the standards have good concepts, but don't give the specifics that make it very testable. And that has led to challenges for our laboratories in interpreting the standards, and creating at times inconsistencies from lab to lab based on that interpretation. And part of what we're striving to create is a consistent, thorough testing process. And that consistency to us, from lab to lab, is vital. And so, when we are looking at ways to create better consistency and better thorough testing, this is a way that we found that we could clear up those ambiguities in the 2005 without drastically changing the standard.

A lot of what is in the next iteration that we are proposing to take, is, simply, deeper diving into these higher level ambiguous standards that are in the 2005 VVSG. And, you know, the EAC has issued, over the last year and a half, numerous, you know, 10, 15, I think we're close to 20, interpretations of the standard. And those interpretations, you know, are part of our process. We understand that. But when you're issuing that many, it causes problems. It

causes challenges in the testing campaign with questions like, when do they come into effect? How do we create this consistency now, when you already have voting systems in for testing that you're working with? At what point do those interpretations take effect? And so, we've reached the point where those ambiguities, at times, are affecting our testing process. And we'd rather clarify the standard as a whole, via a revision, in order to create a more efficient testing process, as well as a more consistent testing process. So, that was a bit of our thought process on this. You know, we got the feedback from the roundtables and then we looked internally at our own testing process. And we really felt that clarifying this 2005 standard would do a lot.

The final reason that we did it, a lot of you have heard this concept of "misdevelopment of test suites or testing protocols." And what that is, is the National Institute of Standards and Technology are developing test methods for the labs to use across the board when testing systems to the VVSG. And NIST, in working to create these test suites, had started with the next iteration and we said, you know, we really need this consistency, these test suites for the 2005 and they said, "We understand. Part of what would help us do that is clear up the ambiguities in the 2005." And in talking to NIST, the best way to go about clearing up those ambiguities was to take these portions of the next iteration.

So, getting these test suites is paramount to us to get consistent, uniform testing across our labs. These are something that all the labs will be required to use in the test campaigns. And we thought that was vital to give NIST the tools to be able to work with us to develop those test suites.

So, what is the plan for this development of the 2005 Revision? Right now, what we are doing is, EAC staff and NIST are working to resolve the comments, the public comments, that were submitted to the next iteration of the VVSG in those sections, which we are going to take and plug in to the 2005 Revision. So, we are currently resolving the comments. All of those resolutions, comment resolutions will be made public, so everyone can understand what we did, and did not, accept from the public comments. We will then put together a 2005 Revision and publish it publicly. And what we're doing there is, we're following the procedure outlined in HAVA for creating a revision to the VVSG. And what HAVA tells us, is that when we're revising the VVSG, we must put it out for at least a 120-day public comment period. The Standards Boards and Board of Advisors must, during that 120-day public comment period, receive an opportunity to comment on the proposed revisions. So, that's exactly the plan that we have to follow, and are going to follow. You all, at the Standards Board, and the Board of Advisors, when we open up the 2005 Revision,

the proposed 2005 Revision, will all receive a chance to publicly comment, you know, via resolution, or whatever vehicle you all choose, to comment on the 2005 VVSG Revision, as well as the Board of Advisors, as well as, just the general public. And that comment tool will hopefully be a lot like the one that we use for the next iteration, something that allows all people on our website to look at the comments that were already submitted, maybe build on already submitted comments, and have a completely open and transparent process.

Our goal is to have that out for public comment sometime in the spring or early summer. We'll then open it up, as I said, for at least a 120-day public comment period, at which point you all will be given the chance to comment. At that point, we will close the public comment and go through the exact process that we're going through now of resolving those comments and publishing what the resolutions to those comments were. So that everyone is aware publicly how we dealt with comments. It will be a completely open and transparent process as was envisioned in HAVA. At that point we will take the document, put it up, the Commissioners will make policy decisions based on comments submitted and the document itself, and a final version of this Revised 2005 VVSG will be published before the end of the year. And we took a pretty aggressive schedule on this because we want to improve our

testing program now. This isn't something, like I said, where we can wait until 2012, 2014 for the next iteration. We want the 2005 VVSG to be something that is usable, testable for us now, and improves our testing process now. And so, that's why we undertook to get this done this year, because it's important to us to create these consistent, thorough testing campaigns.

After the completion of that, the EAC will continue its work on the next iteration. The EAC is not pushing off the next iteration, getting rid of the next iteration, the plan is going exactly as followed with the next iteration. We will take those sections, the good part about taking sections of the next iteration and plugging them into the 2005 is, while we're working on this 2005 VVSG Revision, we're also working on the next iteration. So, those sections will already have the comments resolved. And then, we just need to deal with resolving the comments to those sections which weren't plugged in to the 2005 VVSG Revision. We'll complete resolving those, create what we call the EAC Draft of the next iteration of the VVSG, which will then again be published for public comment, receive comment from both Boards, from the public, for at least 120 days, this is the HAVA vetted 120-day public comment period that is required for any version of the VVSG that we're putting out there. You all will receive a chance to comment, we will resolve those comments, once again, publish the resolutions to those comments, and

eventually adopt the next iteration with policy decisions by the Commissioners, including implementation decisions. You know, the research we need to do on the next iteration is great, even as far as how long it might take the manufacturers to design to it and how long it will take us to reaccredit our labs. So that's, that's the game plan going forward on both the 2005 VVSG and the next iteration. We think it's something that will improve our testing now, create good, testable standards for us to use now, and allow, you know, the laboratories to have consistency. And that's vital to our testing process and something that we're focused on.

So that's my comments for now. John Wack, from the National Institute of Standards and Technology, is going to talk a little bit more in detail about the sections we are talking about, and sort of, how we weighed which sections to take and the schedule. And then both of us will be happy to answer your questions after that.

MR. WACK:

Good morning. Let me get set-up here just for a second – I can't talk and use the computer at the same time. Okay. Okay. Well, thank you again Matt. My name is John Wack from NIST. This might be the second or third time I've had the privilege of addressing you. It's an honor and a privilege to be here, and I very much appreciate the invitation. Being down here, so low, I feel like

I'm in the House of Commons in England, and if you're going to throw anything you might actually hit me. So, if anything gets thrown, I'll tell Matt to come up here and help me field it.

So, Matt gave you quite a bit of background for what I'm going to talk about today, and I'll probably iterate some of those things. And again, if you have any questions, you know, please feel free to ask.

I'll just start off by telling you a little bit about NIST. Again, we were brought into this process through HAVA. There had been some voting work at NIST in the late 1980's, and early '90's, some publications. But we have a team of people that's been involved pretty much since about 2003, and I think to a large extent, like anything in life, you know, you don't really understand how to run an election, unless you've actually done it. Or you don't really understand how to test a voting system, if you haven't really done it. So it takes awhile for people who aren't doing that as a living to get an appreciation for that. People on the team have, generally, worked in elections, volunteered in elections, done a lot of talking with election officials and gone out to test labs and worked with vendors, met with vendors. So, it's taken a number of years, but I think we have a good team. I think everybody pretty much knows their stuff pretty well. And we're very willing and happy to talk and listen to questions – basically, try to do the best job we can.

So, with that, this is essentially my talk today. I'll go over some of the background and issues again that Matt talked about, and then I'll talk about basically the criteria for selecting the material, what went into that. I'll talk about the material itself and how the testing material we have fits into the overall scheme. And then, go through the next steps and, kind of, where we are in the schedule at this point.

Okay, Matt talked about terminology. Again, you'll hear me talking about "the revision." When I say "the revision" I'm just simply talking about this revised VVSG 2005 we're working on. And the acronym we tend to use now is VVSG-NI for "next iteration," the next iteration. And that, again, simply, is this document that we presented to you, I think it was in Austin, roughly about a year and a half ago, I believe.

So, background issues, again, the 2005, when NIST got called in with the TGDC to work on the 2005, we had a nine month timeframe, but that essentially boiled down to about six to five months of work. And we couldn't do a whole lot in that amount of time. We added a lot of brand new usability and accessibility material. We added material on voter verified paper audit trail devices, DREs with the paper trail, that was brand new, some new material on set-up validations, some new material on software distribution. I think we improved the glossary and some

conformance related stuff. But, there wasn't a lot of time to really do a thorough job on that. And so it was very much an incremental update and a lot of 2005 really is the 2002 still. And there is no, you know, no uniform test suite associated with the 2002, the 2005 at this particular point.

So, the next iteration – we had essentially two years then to write this. And I think at the beginning of that two years, we all thought, "wow, we've got two years." And, at the end of the two years we thought that wasn't nearly enough time. Because it's a very complicated process. I found it to be extremely complicated -- voting, a very, very interesting thing to have to work in, and the way systems are tested and used and fielded, and all the differences among different states and even within states, differences in various counties. So, it was very challenging to get what we got out the door in the space of two years. But it is pretty much a complete re-write of everything and I feel that there are a number of good improvements in a lot of areas. We have tests being written, mostly written already for the requirements in the next iteration.

And the last bullet, Matt talked about that, we've pretty much completed the first review of the first draft of the next iteration. And then, as Matt talked about, we are in the process of responding to some of those public comments and we'll come up with a second draft. The Commissioners will weigh in on that. That will go out for

public review. That will take some time. It will probably, like VVSG 2005, it will be put out there but won't be required just yet. Vendors will have to build to it, so we're still talking about a couple of years down the road for that.

So, when the EAC came to us with this idea of the revision, the idea there was, what can we do to improve the testing process and what can we do in a relatively short amount of time? A number of ideas were discussed. We thought the best thing to do was bridge the gap between 2005 and the next iteration. And take that material from the next iteration that pretty much was ready to go that people generally agreed upon, and that we thought would, in a significant way, improve testing and make testing more uniform across test labs, bring along the associated test material, and do it in a year. And really, when I say "do it in a year," really, that means get something out the door for public review by late spring, early summer. Notice, Matt says "late spring," I start to say "early spring, late summer." But get it out relatively quickly, and then go through this review cycle, respond to the comments, and then get a final version out. So, it will be a very busy year getting that out the door.

So again, the idea is to fill the gaps, fill the important gaps, that we can fill right now with material that we think is ready to go, that people have generally agreed upon through the comment process and through the roundtable discussions that the EAC had,

and also through the interactions we had with both the Standards Board and the Advisory Board, the Board of Advisors. Take that material that was commonly agreed upon as ready to go, put it in, as long as the material doesn't require substantial, significant changes in software or hardware. Doing that right now would significantly slow down the ability of vendors and manufacturers to get systems out the door and get them tested. And the whole idea here really is to improve the testing process as quickly as we can.

Now, the advantage of this is, in some ways you could look upon it as a staged way to basically build to the next iteration. So, we're getting out some material already that vendors can start building to. And, you know, after a certain period, ramp up to the, to the next iteration. So here's the ported material that we're working on right now. And we had a series of meetings about this, discussed a number of ideas, talked with various stakeholders, and looked at everything we possibly could. And one of the big limiting factors of this really was "what can we get done in this timeframe?" So that meant that some material that we probably would have liked to get in there, we couldn't really do in this amount of time. But what we ended up with, we pretty much agreed upon, was a realistic set of material that would do a lot of good and that we could get done. So, I'll go into more details about this in the next

set of slides here. And, again, if you have questions, please let me know.

Okay, the human factors material. Human factors is usability, accessibility and some privacy. And one of the reasons why we think that we can port this material over into the Revision is simply that the 2005's human factors material was brand new. It was brand new to the standard and what was done for the next iteration was largely a maintenance version of it, a number of clarifications, a few things added. Two things that were somewhat significant being added – usability performance benchmarks, that was essentially a way of testing interfaces. The idea was that labs would conduct kind of a mock election on voting systems and basically look at the results and those interfaces, those user interfaces that basically produce the best results would, you know, pass certain benchmarks, hopefully. There were poll worker usability requirements added to the next iteration's requirements. And what we're going to do is bring along the poll worker usability requirements into the ported version. Usability performance benchmarks are still somewhat under development right now, still doing some trials at this particular point in time. So, being that those are, I think, a relatively small number of requirements, we'll wait for the next iteration for that material and we'll bring along all the new material. So, in a lot of ways, Chapter 3 of Volume 1 of the

2005, that's the Human Factors chapter, that's practically going to be a wholesale replacement with what's in Chapter 3 of the next iteration.

So, security, I've got a couple of slides on security. The voter verified paper audit trail material in 2005 was, you know, like the human factors material, brand new. And it was based on, you know, the state laws that were out there and regulations, as well as some research and a lot of talk with election officials. And what was produced for the next iteration is, again, primarily, a maintenance level upgrade. One of the significant aspects to it, though, was that what goes on the paper record and essentially the auditability of the paper record, I think was improved a good bit. There were a number of problems in the 2006 election with these types of systems, especially being used for early voting or in multi-precinct vote centers. So, we tried to look more at the role of the auditor as a user of the voter system and made a number of improvements there. So, that material will also be ported into the Revision. And, I think that's a good thing.

Okay, electronic records requirements – there were a modest number of electronic records requirements that were written for the next iteration. And, you know, essentially, what voting systems must report on, and what material needs to be put in there. And that material is now going to be ported to the Revision. One

difference is that the 2005 basically says cryptography ought to be used, digital signatures ought to be used, but it doesn't really say, exactly, how to do that and it doesn't have a uniform method. So, what we're going to do is we're going to say that these electronic records must be digitally signed. One difference here that I'd like to point out is that the – I'm switching between three standards so I hope I'm not confusing you a lot – but in the next iteration, there is new cryptography material. And it basically says, at this particular point in time, it says that voting systems must have a hardware cryptographic module that digitally signs information and does other things like that. What we've done for the revision is say, yes, we want a cryptographic module, but it doesn't have to be in hardware and it can be scaled back, but it still has to be able to digitally sign records and do it in a standard way that we know is good. So that will be ported also.

And the other thing is the next iteration, in the documentation requirements, had a number of documents demanded of manufacturers to, essentially, spell out how they do security. Basically, how they respond to various threats in their overall model for addressing security. And in meetings with some of the labs, they felt that this would be useful to them in the testing process, so we are porting that material over. We're developing a number of

templates for the documents, essentially, so that manufacturers can, essentially have a common way of addressing this information.

Okay, the other thing with security, 2005 has a setup validation requirement. And essentially it addresses the issue, "how do you prove that you're running the certified software you're supposed to be running on the voting system?" And with most voting systems, with DREs anyway, there is no real easy way to do that. And if an election official basically gets asked to prove that you're running the right software, you have your recordkeeping process, but you don't have anything else. And so, this idea was that you would be able, you know in a relatively easy way, prove that you're actually, show that you're actually running the particular code that you're supposed to be. That required a hardware change because it has to be done somewhat independently of the voting system. You can't basically ask a voting system, "What software are you running," because the voting system may not want to tell you the truth. So it required a hardware change. What we are doing in the revision is something along the same flavor, but it can be done in software. And that's essentially saying that voting system code application needs to be digitally signed and then when it's loaded onto the voting system, that digital signature has to be checked in some automated way, and if the signature is validated, it can be loaded. So, it's basically not allowing any software on the

voting system that isn't digitally signed. So, that is another way of ensuring basically that you're running the code that you're supposed to be running.

Okay, the core areas, the core areas, really, we kind of think of as, everything that's not specifically security and its not specifically human factors. So the core area actually in the next iteration is fairly large and encompasses a lot of material. So this is material that we think speaks directly to testing process and can go a long way. The software workmanship requirements in the next iteration were a complete revision of what's in 2005 and what's in 2002. And the vendors especially wanted some revision in this particular area. So, basically new coding standards are allowed and a number of software integrity checks are required as well. So, that will all be put into the revision. And the way in which systems are tested, the protocol in which systems are tested will also be put into the Revision, and essentially the way we're going to do it basically evaluates reliability and accuracy over the entire course of the testing campaign, and, a couple of other improvements in that area. Humidity – I was at a Board of Advisors meeting years ago when people were talking about, you know, what other things do they want out of voting systems to work better? And one thing that was mentioned was operational testing of voting systems in an environment that raises the humidity. So that's going to be ported

over, and there's also a number of other items, including what goes into the test plan, what goes into the test report, the quality assurance program that a manufacturer runs, configuration management. These things, over the course of years, have overlapped somewhat with some of the documentation from the EAC. We're basically going to decide where that material goes. Some of that material may go into the revision, or it may go into the EAC documents, but we're at least going to put it in one place.

Okay, so as Matt was saying earlier, with the next iteration NIST set about writing, essentially, tests for all the different requirements, and the big advantage of porting the material over into the Revision is that the associated testing material comes with it. So, we have been working on these tests, the tests will be available publicly the end of March, April. We think this will assist labs greatly by giving them a common foundation that they can use across different labs. And from this, they can then develop vendor-specific tests.

So, the next steps – where are we in the process? Basically, what we set about doing was we took all the public review comments that were submitted for the next iteration and we started looking at those comments, those comments that really addressed the material to be ported over, and started responding to them and essentially coming up with how we're going to make revisions in

that particular area. So essentially, we've kind of done some of the work already then for moving the next iteration along. We've addressed a number of the public review comments to the next iteration and changed material accordingly.

So then, theoretically, we then start taking that changed material and mapping it over to the 2005. Now, that's not an easy thing because the two documents are pretty different in format, and I remember from previous meetings some of the issues you had with the next iteration, I keep wanting to call it the 2007, but the next iteration, was that it was complicated to read in some areas. There was a class structure associated with requirements and I think initially that's a little bit difficult to understand. So, we're trying to map this material over, and we want to end up with a document that once it's out for public review is very usable for the reviewer. In other words, you can read it, somehow or other the material blends together, makes sense, the terminology is consistent, but at the same time you're going to be able to very clearly see what the new material is and what material has been replaced. So, we'll do that, we'll get that out for public review. I think that goes out for, at least, 120 days, and then work on a final version after that. And then, the testing material, of course, goes along with that.

With that, I think I probably talked a little faster than maybe I was supposed to. But that does leave time for any questions. So, are there any questions?

MS. MCFARLANE:

Jonda McFarlane, D.C. I just have a, first of all, I think it's really great that you're doing this because we have had a problem that people feel that we're not moving fast enough on this, on this, in this arena. And so it's wonderful that it's happening. But to that end, it appears to me that if we could perhaps change the title of what we're doing it might help -- if we could call it the "2009 Revision of the 2005 VVSG." There's a perception there. Because when you call it the 2005 Revision, it feels like we're still back in 2005. So, again, it's just a public perception issue and it seems to me a new title would help to, for the public to say, "Oh well there, this is really something that's happening right now, or that happened this year, to a document that was earlier. So, just a suggestion.

MR. WACK.

I appreciate that. That's actually something that we've heard from other election officials. And that's something, I think, I mean, it's up to the Commissioners I guess, what to call it, or whatever. But, we want to make sure everyone's aware that this is a state-of-the-art testing document. I mean, we're putting a lot of effort into

this. You all need the assurance that that's what it is. The manufacturers want to be able to see it that way. They've been tested to these rigorous standards. So I can tell you, I appreciate your comment and we are very aware of that, and need to work on that.

MS. MCGEEHAN

Ann McGeehan, state of Texas. I have two questions. The first is really more just a request. Can you review for us what the 2005 standards require by way of paper trails? As I recall it was kind of a compromise, and it's an option, but if the state chooses it, then certain requirements kick in, including accessibility. So, if you could kind of review what the current standard is under 2005, and then, if you could explain a little bit maybe from a more practical level, what this new digital signature requirement, how that's going to, practically, affect the DREs that are out there today.

MR. WACK:

Okay, two questions. The first is review the requirements for paper trails and how that affects accessibility in 2005. And then, go over again the digital signature material. I might look to Matt for the first, for part of the first question.

As I recall, 2005 has a section on voter verified paper audit trails which, you know, is a paper trail, as well as, opscan systems. But they are not required, there is no requirement to use them, you

know, essentially, basically, if you use these sorts of systems, here are the requirements for using them. But there is no requirement there to actually use them. I think, is that correct?

MR. MASTERSON:

Yeah, that's, we're not requiring that, that's exactly right. And all this update is going to do is clear up, improve some of those usability aspects, if a vendor is going to offer, or get certified, a system using a VVPAT, this is what that VVPAT needs to be able to do. But we're not requiring VVPAT to be part of that system. Does that answer your question?

MS. MCGEEHAN:

It does. And then just to follow up, so some of the systems that are currently being reviewed by EAC right now for certification, does that include any VVPATs under the 2005 standard?

MR. MASTERSON:

Wow, I'm hesitant to give you a definite, but my thought is, "no."

MS. MCGEEHAN:

Ok.

MR. MASTERSON:

Except for, that's not, I mean, there's opscan. There's at least one that I can think of...

MS. MCGEEHAN:

Yeah, I meant DRE.

MR. MASTERSON:

I'm pretty sure the answer to that is "no." But, let me get back, let me do research before I give you a hard definite on that one.

MR. WACK:

Okay, the digital signature material, the 2005 has requirements in it for digital signatures, but they're "should" requirements, for the most part. And there are lots of different definitions people use for digital signatures. So, NIST has had for a number of years, this cryptomodule validation program, because the government, basically, wants people to use, you know, a certain strength of cryptography and do it in a consistent way. So, basically the requirements from that program were more or less harmonized, or put in, with the next iteration. So that's being ported over to this Revision. And it basically says that voting systems have to have, at a minimum, kind of a chunk of software, a software based module in an application that holds keys for digitally signing records, essentially, or digitally, or checking digital signatures on software. And this will then be used, kind of in an automated way, to digitally sign records that get written to, you know, memory devices, internal memory, things of that sort. And it will also be

used to check digital signatures on application code that gets loaded into the voting systems. And this is, essentially, what's being put into the next iteration, as well.

MS. MCGEEHAN:

So, just to clarify, so would that affect more in, sort of, setting up an election, or would that actually have controls at the polling place? Would poll workers then be having to change their procedures or its more automated?

MR. WACK:

Well, I, I, I mean I can't say for sure, but I think this is intended to be something automatically done by the voting system, and it's not anything that really is going to change the way, in any voting system procedures. Basically, when an election official, or when, you know, people in the election official office load software on, it will be a little bit different because there will be basically a method for checking digital signatures. Now in a sense, when you do an update to Windows, you know, the same sort of thing kind of happens and it's sort of automatic and Windows may say something about it to you, but, you know, basically it's fairly automatic. When you get records out of a voting system at the end of the day, they will be digitally signed and you could then check the signatures to make sure they validate accordingly.

Other questions?

MR. HARRISON:

Allen Harrison from Arlington, Virginia, local member. I have a couple of questions I'd like to ask. And, I don't know if I've got them in the right order, but I'll try.

What is the -- will be the status of the pending applications during the period that these revisions are under consideration?

MR. MASTERSON:

Sure, that's a policy decision that Commissioners will have to make. But I can tell you, you know, the systems that are already submitted to us, right now, are submitted to a standard, and so, it won't affect the systems that are submitted to us, right now, in our testing program. As part of their application process, it's identified the standard that they're being tested to, and those systems will be tested to that standard, that they're applying to, right now.

MR. HARRISON:

Okay. So, those that are pending, then, are under the existing standards, and the ones under consideration, I got the idea that you were feeding in some, which, to me, sounded as though you were adding things, after the manufacturers had gone in to be certified under something they knew about. Is that incorrect then?

MR. MASTERSON:

I don't think I understand -- feeding in something...

MR. HARRISON:

That you're feeding in, as some of these new revised standards, as you go, as a requirement under the current certification system. Is that not true?

MR. MASTERSON:

No, no, the next generation...

MR. HARRISON:

So basically, we have the '05 standards that are used for all pending ones. So, if they're certified, and these come in, they will -- those machines will be under an old set of standards then?

MR. MASTERSON:

They're under the, the set of standards that they submitted to now, which is the 2005 VVSG for...

MR. HARRISON:

So then, if you change, then those will be not under the new ones.

MR. MASTERSON:

Right, that's correct.

MR. HARRISON:

I have one more question, if I may, or one or two maybe. I'm looking at the January 23, '09, update of pending, and I see that one-quarter of the applications have been terminated. I also understand that a lot of the voting machine companies have gone out of business. I get from a vendor -- or supplier, Premier, that

uses memory cards, that tells us that those are no longer going to be used. In the Presidential election, we used -- rented some Optec ones. We would have bought Optec, but we know that there are more sophisticated ones pending. If we had bought anything, it would be like buying a five year old Buick, albeit it's brand new, but under the old standards. I'm getting very concerned that the manufacturers of voting machines are getting fewer and fewer, and people are less likely to go into supplying them. That, I think, is a realistic concern at a local level, and I don't know, and I'm concerned of the impact. While I concur with doing these, getting better standards, and this is something that evolves with the computers, they get out of date very quickly. I'm, at least, gratified to know that, at least the people that are -- have applications in, will have that one standard and not have something added to them. Although, they'll be out of date when they're, when you put new ones in.

Let's see, I've got one more -- you mentioned that paper trails, or some like system, are there but they're not being tested for that. Is that correct?

MR. MASTERSON:

If a paper trail is on the system, it is going to be tested, except to say that you have the list, I'm glad to see that you have the list the voting systems submitted for testing...

MR. HARRISON:

Yeah, it's very troubling when I see a quarter of the people pulled out.

MR. MASTERSON:

And I can address that a little bit, but for the VVPAT, the 2002 standards didn't speak to the VVPAT concept. And so, they'll be tested, that's a functionality that's on the system that will be tested. But the 2005 VVSG had an update, or had new standards for VVPAT that were specific to that. So, the functionality of the VVPAT will be tested, but not in the same way that the 2005 tested at. And just to, we know your concerns, because I think they're shared with many in this room.

MR. HARRISON:

I'm sure they are.

MR. MASTERSON:

Yeah. We're very aware that we need to get these systems out, while maintaining the integrity of our process. And we're committed to getting them done and on. At a meeting in Miami, Brian Hancock, our Director of Testing and Certification, recognized that, and set a timetable for some of the systems that are in now, because we know you all need that. And as far as some of the, there's a variety of reasons why some of the vendors pulled out. Some voluntarily pulled their systems for reasons, we don't inquire

why they pulled their systems, it's just up to them if they want to pull their systems. One vendor, that I know of, pulled because they went out of business.

MR. HARRISON:

Well, that's very helpful, but I do think it's something, and I don't know where it should be addressed, I'm at a loss there. I look at this wonderful release about MicroVote being approved. It's come out of this, it's been approved, it's the only one out of the 12 that are pending, and then a fourth of those withdrew. This is nice, but our General Assembly of Virginia, in its infinite wisdom, will not let us use, or buy, anymore, or lease, or gift anymore of the DREs. And so, this approval is for naught under the present laws, which I would hope they would see the wisdom of changing, personally and professional in this area. But this is what we face, but then I worry, can I go with good conscience to my county board and ask them to put out another million dollars, as they did for the DREs, which were approved and were properly certified. Can I do that and say buy an Optec which we know does not meet these, or will not meet these revised standards? Are they going to recertify them so they are updated or require something?

MR. MASTERSON:

That's a vendor decision based on what they, it's important to note these revisions are improvements to the standards, bringing up the state-of-the-art...

MR. HARRISON:

I understand that.

MR. MASTERSON:

But the 2005 that they're being tested to, now, are a standard that was approved, tested to, and so, you know, we can only, we have to update at some point, and I understand your concerns. It's still, they're still being rigorously tested, they're still, you know, getting through the tube. But part of the reason why we're updating is because, as you can see on your list, several of the vendors, you know as a business decision, are testing to the 2002, and then we weren't getting submissions, as many submissions to the 2005, and so part of the effort is to bring that 2005 up to date so that it's worth the effort to test to that 2005 because it has those, that increased testability that, you know, clarification of ambiguity. And we've talked with the labs and the manufacturers about that to make sure that this is worthwhile. That this is a worthwhile effort.

MR. HARRISON:

But I think you appreciate the quandary that we have to go to the board, even if there's one coming off with the '05 standards,

knowing that there is going to be newer, later, and hopefully very soon, unless all of them are going out of business which I'm beginning to wonder. Can we get any earmarks to help them?

[Laughter]

MR. HARRISON:

Maybe we ought to take a whack at that John? But, the, that is an issue. Would we put it off again and then rent if we can get them, but no smart cards? We may not even have them to rent, to do that. We've gotten burned on the others.

MR. MASTERSON:

I hope it doesn't sound hollow when I say, I appreciate very much...

MR. HARRISON:

Oh, I know you do, but it's a difficult situation.

MR. MASTERSON:

It is.

MR. HARRISON:

I don't know the solution. I'm not a professional in that, but I'm, I know spending county's money, although Arlington probably is, has had money to spend, and may not now, real estate market now. But those are issues that I think need to be factored into this.

MR. MASTERSON:

Absolutely.

MR. HARRISON:

Thank you very much for your courtesy and your report.

MR. MASTERSON:

I appreciate your comments.

MR. HARRISON:

I think NIST came out to our -- to see our machines at one time. We do appreciate it.

MR. MASTERSON:

Thank you. Question?

MR. RAGSDALE::

Matt, Russ Ragsdale from Colorado. This is part verification for the body here, how many current submitted systems are to be tested against the 2005 VVSG?

MR. MASTERSON:

Current submitted systems to be, well we have MicroVote done, so that will go into the 2005, and we have I believe it is either two or three others...

MR. RAGSDALE:

Okay.

MR. MASTERSON:

...that are to the 2005.

MR. RAGSDALE:

Another question. How much of the experience that you've gained from the current testing campaigns for the systems submitted to the 2002 VSS, how much of the experience that you've gained there, provided motivation for you to go back and revisit the 2005? Have you learned things from that, those current testing campaigns that compelled you to go back and look at the '05, or are they totally unrelated?

MR. MASTERSON:

No, I would say we learned a lot. Part of our motivation is because of that. Looking at those testing campaigns, we saw the ambiguity, because much of what's in the 2005 is in the 2002, you know, they just took a lot of it, and so we saw a lot of that ambiguity that was in that 2002 testing campaigns and the 2005 testing campaigns and said these interpretations that we're having to issue, this inconsistency from the labs, is not a good thing for our program. We need that consistency to have a good rigorous process. And that's the lessons we learned. It's not really about, the systems more than our testing and our processes and how to get a good consistent, so that, you know, the manufacturers and us can have confidence that systems are being tested consistently, rigorously, and thoroughly across the board. So I'd say it informed us a lot.

MR. RAGSDALE:

Is there anything that you're seeing now, with going back and revising the '05, that might help accelerate the testing and certification process, for those systems submitted against the 2002 VSS? Can you give us an update on what's going on with those systems?

MR. MASTERSON:

Yes, yes, I can, and I'd say, we've learned lessons, regardless if it's the 2005, or 2002, and Brian Hancock, our Director of Testing and Certification, at a recent meeting in Miami, laid out basically a 120 day window, that we need to get the systems out. Get them through our process. Which doesn't necessarily mean certified, per se, but we need to get answers to all of you, so you know you have your updates on an ES&S or Premier, you know, whatnot. And so, that's the window we're working under, we're working, we've learned a lot since we started. And one of the key things that we've learned is the need to communicate between our labs, our manufacturers, and ourselves. So, we're doing things like having weekly conference calls with them, working through the testing process, laying hard deadlines on our review process of test plans and test reports, because we saw the bottlenecks, we saw what you all were saying to us about needing to get it out. And we have greatly improved the efficiencies in our process without sacrificing what we believe to be a very rigorous process. And so,

we've learned a lot, and we know, we know the reality, I mean, you summed it up very nicely – the reality that updates need to get out to you all, you know, we hear from the states and localities and we realize what we need to do. So do you, I mean I can update, I guess specific systems if you want, but...

MR. RAGSDALE:

Russ Ragsdale from Colorado. Just, you mentioned a 120 day window that you've been given. When did that window open?

MR. MASTERSON:

Well, I would say...

[Laughter]

MR. MASTERSON:

...today. A week from now. No, I mean I would say from the, Brian made the comments at the end of January in Miami, and so, I would say that's when we started our deadline to get this done, to find a solution and get these through the process.

MR. CAMPBELL

Bill Campbell from Massachusetts. I'm actually going to build off comments that Mr. Harrison from Virginia, or Ms. McFarlane from the District of Columbia made. I'm also a local election official, so I don't build machines, and don't really know how they work. I call substitute poll workers at 6:30, and see if they can cover polling stations – that's what concerns me.

I'm just wondering if there's a , if there's another way of going about what we're doing. Ms. McFarlane talked about the 2005, it sounds like I have an old machine. In Massachusetts, one of our vendors is no longer going to service some of the earlier machines that were put into place, and then, I have a machine that I've learned now, that I was offered to buy memory cards, buy them cheap now, because you're not going to be able to buy them any longer. And I talked to a vendor and I said, one of the vendors that just sells, they don't manufacture, and I said, "Well, you guys must be just burning up waiting for us to get these new standards out to you." And he's not all that interested in getting the standards out, but the people who are buying the machines, want the standards to come out, because now they have machines that aren't going to be serviced at the end of the year, or such as myself, I'm going to buy a stack of memory cards, and just put them in my vault and hope they last. Is there a way that, I can call it a 2005, and just getting back, why do we not call it 2009? I remember last year's debate was, well we got through 2000 which started it off, then 2004, and no one wanted to into the 2008 election with new 2008 standards, because none of us would have, there would be no machines that met that standard. Is there a better way to do this, some kind of a rolling standard, so I can just go out and buy a machine today, and know I got the best machine I have, today, instead of, "he's got the

2005, he's got the 2008," because two years from now, 2008, is two years old. But my machine I bought in 2001, I've had absolutely no problems with it. But, I mean, it's a 2001 machine.

MR. MASTERSON:

I think there's two ways to answer. I mean, one of the things that we can look at, and, again, this is sort of a policy decision for the Commissioners, is not assigning a date to the standards at all, but instead, just versioning them. You know, I don't know if that's an option, but that would take this date concept out of it, so that it's just the next whatever version of the standards. You know, to answer your question about, you know, rolling them out, one of the things that I think the Commissioners are going to be presented with, to decide, is, overlap of the standards and testing to the standards. So, that there might be that roll. But part of what we're doing by creating this revision is trying to roll them out, you know, get you state-of-the-art, but we have to follow, I mean we can't just put it out tomorrow because we have this process that we have to go through. And so, it's a constant challenge with technology to stay up to date. And the way the system is set up, you know, manufacturers will then have to make whatever improvements to meet that standard. And so, I can understand why you always feel like you've got the older set, but at the same time we still need to be improving the standard. So, I guess we need to talk to you about

the best way to handle that challenge from your point of view. Because I don't know how to do that, where we need to update the standards but we also don't want you all to feel like you're using something antiquated where you're not. That's a great discussion that we need to have with you all. I don't know if I answered anything there but...

MR. CAMPBELL

You did. Bill Campbell from Massachusetts. I guess, in a nutshell, I want to know, and maybe you've said it and I just missed it, "Why is this important to me as an election official and why is this important to the voters?" The vendor that I talked to said, "Well, you want a good, reliable machine that turns on the day of the election." And the voter wants to be able to slip their ballot through and know that it's done. I know that's what we're working towards, but his description is "this is all under the hood." He said this is all, for you and for the voter it's not going to improve your life. I know, talking to someone who's selling the machines, he wants to sell me what he has, but...

MR. MASTERSON:

Is it important to the voters, is it important to the voters, what we're doing? I would say absolutely. I think it's absolutely important. You know, John described some of the cryptography protocols that are in there, and that may be something that is quote

unquote "under the hood," although I would say that that's something certainly that's important to you all to at least understand, so you can ask the questions you need to ask about something like cryptography. But at the same time, that's something that's bringing security value to you, whether you, you know, have to interact with it, or whatever, it's bringing security value to you. Not to say that the systems you're using now don't have good security, but there's always state-of-the-art improvements that can be made. And that's why we're doing it. In addition, I think the value it brings to you is creating a more efficient, consistent testing process. And I think for those states, localities, whatever, that use our program, that's of a lot of value to all of you because we constantly need to look at our program and what we can do to create a consistent, efficient testing process. And this is one of the ways that we saw that we could do it in a relative hurry, as opposed to having to wait. And so I think that's another advantage to you, for those of you that use our program or want to use our program.

MR. WACK:

Just a couple of things I'll add. You know, I think the big differences are just going to be in the quality of systems. But, you know, in a number of areas, for example, as an election official you are going to be able to say, "I have validated digital signatures on

code and I know that the code I'm running verified correctly. And so I'm using the right code. You can trust me on this." Election records will be digitally signed and that comes with the possibility of even mapping specific records back to specific devices in a very secure, verifiable way. I think that's a good thing. The usability and VVPAT requirements in the 2005 are basically being updated in a relatively small way, but it brings over all these tests. So, you know, those two areas specifically are going to be much more uniformly tested. And basically I think in the usability area right now, labs are acquiring expertise but don't necessarily have it to the extent that they have in other areas. So, gleaning over test suites associated with the usability and accessibility requirements I think are a very good thing there too. So I think there are a number of improvements. They aren't entirely obvious, but I think that it actually will give more assurances to people who want more out of voting systems security. And, again, I think systems will be more uniformly tested, more usable. My own opinion is that a number of problems with voting systems that people have attributed to security problems, like vote flipping, often times are usability issues. And so I think better usability will quiet that down a little bit too.

MR. MASTERSON:

The poll worker usability is an interesting one for you all as well. I'm sure that's something that could be seen as helpful, you know, making the systems more usable for your poll workers.

MR. CAMPBELL:

I'm sorry to dominate, I have just one more question. And this is just because, I like to say I'm frugal, my wife likes to say I'm cheap. Is there a way to retrofit what is in the field now with these improvements?

MR. MASTERSON:

As John said, one of the determining factors on what we were going to map over was, in talking with labs and manufacturers, in doing stuff that wasn't going to require huge redesign, and so I don't, I'm hesitant to use the term "retrofit" I guess because I think it has implications. But, it, that's to say something like that, the manufacturers have said to us, "Implementing some of these crypto software procedures is something we can do relatively easily in a hardware update perhaps to, or in a software update to something that perhaps we've already certified." So, you know, that's something they've said to us, "Yeah, we think that that's an improvement that we can make software-wise." Okay, so we have a certified system, we can do an update, get it through certification that way and fit it in that way. And so that was sort of one of the things we looked at. We

didn't want to create a complete redesign because that's what the next iteration is going to do and there needs to be a long time lag for the vendors to design to that. But there is stuff vendors have indicated to us in the areas like the cryptography, that they thought that they could do relatively easily, implement, and get through our testing in an update or whatnot. So, I think the answer is "yes," with fear of using the term "retrofit" I guess.

MR. WEIR:

Steve Weir from California. When we went to Kennesaw, we were informed as to how easy it was to run a hash against our system and I went home and did it. It was not as clean or easy, but at least I was able to run it against my major system. No way can I do that against my individual machines, and the concern is if we're able to do any kind of a test on our machines, do we have to open them up, which opens us up to tremendous criticism. Or is there some kind of port in the system through which we can do that? Again, having another port to access the system would lead to criticism for us. So, with the new system, how am I going to be able to test my individual machines?

MR. MASTERSON:

I'll speak to both, the current 2005 I guess, and then what the retrofit does. Because I think, there's an answer for what the current 2005 requires and then what this Revision will do because

the Revision changes the requirement a little bit. So I don't know if you want to speak to both of those.

MR. WACK:

Sure. Well in the 2005 there's a requirement and it's not the best of requirements and it's sort of ambiguous. But it basically says a vendor needs to provide an external interface, maybe an external port, imagine like a secure USB port, that can be used to interrogate the voting system, and it can basically report back what the code is, or you know, maybe a hash value for the code that's running on the system. So that's the requirement in 2005. There's no requirement for how easy this ought to be, who ought to do it, you know, when it ought to be done. So, some people have raised objections about that requirement. But the idea, you know, there is to make sure that the voting system is running the proper code. So the improvement here is that, actually I don't know if the plan is to, I'm not sure, I don't think the plan includes getting rid of that requirement, but, as an alternative to that requirement, and part of the implementation really depends on how vendors want to implement this, but there will be the capability for vendors to digitally sign their software. And then when you come to the process, when your people load updates or load a new application on, as part of that update process that digital signature will have to be checked by the system itself. And, not by you necessarily, but

by the system itself. And, if the signatures validate, then the load will be successful or the load will proceed. If the signatures don't validate, it's going to say, "Hey this code doesn't match up, you can't load it." So that's really currently, in some respects the way, if you go to apply like Windows Service Pack you know I, II, III, whatever, that's kind of built into that process as well, although you don't specifically see it and you don't have to check any digital signatures or hashes yourself necessarily. I don't know if that, so it's going to be more automated really, is the short answer.

MR. MASTERSON:

Just a small caveat to this, because it only sort of relates to you, the EAC's testing certification program requires for systems that get certified by the EAC, the submission of software validation tools by the vendor. And we make those available to localities or states upon request to be able to do a validation of software that way as well. And so, you know, right now MicroVote, we have software validation tools that are required as part of our program. So that helps as well, where you wouldn't have to go in and fiddle fiddle around, but will allow you to similarly, although not the same because I've seen Kennesaw's hashing a little bit, in a similar process, hash out and look at the code that way as well.

MR. HARRISON:

I have one very direct question and I won't wander. Looking at this chart again, of the remaining applications, I note that two-thirds of them were filed in '07. Can you tell me, or is there any way to tell when some more will be approved? Some more of these applications.

MR. MASTERSON:

When they'll get through....

MR. HARRISON:

When they'll get certified? Any guesstimate or is it just...

MR. MASTERSON:

I won't say "certified," but they will get through the process, as I said, Brian Hancock...

MR. HARRISON:

Well, I mean, so that we can use that to purchase them if we so desire, although they'll be out of date when you put in new standards.

MR. MASTERSON:

As I stated, this 120 day window that our Director of Testing and Certification, Brian Hancock, has laid out, is what I'm, is the deadline I'm working under to try to get a system through and so...

MR. HARRISON:

Have they been there awhile?

MR. MASTERSON:

They have and, you know, I won't make any excuses...

MR. HARRISON:

If I were the manufacturer, I would think I would be a little nervous.

MR. MASTERSON:

Well, I think the manufacturers are a little nervous. But there's a variety of reasons why they've been...

MR. HARRISON:

Oh sure, we can go from one to another...

MR. MASTERSON:

I'm happy to talk about any specific system...

MR. HARRISON:

Something is happening, or isn't happening, I don't know which it is.

MR. MASTERSON:

It's probably a mixture of both quite honestly. But, I'm happy to answer any questions about that and where we are in our process that way.

MS. MCRILL:

Sue McRill, Michigan, State Representative. At the risk of sounding like I'm kind of restating the obvious here, I just want to say that, that I do have concerns regarding the revisions of the '05 VVSG. You know, when the '02 standards came out, there was a

rush by vendors to meet the '02 standards and then, finally, we started seeing vendors coming back in and trying, attempting to meet the '05 standards, and now we've just announced to the vendors that the '05 standards have become a moving target. And I'm not surprised, based on that, that all of them haven't withdrawn. You know, I wouldn't be surprised to see all of them kind of sitting back and waiting until spring or summer and then resubmitting just so they can then meet the most current standard that's available. I guess going back to Mr. Campbell's comments, maybe, I understand that we're learning as we move along and we try to go back and ensure that the standards are as technically sound as possible, but maybe it's time to reconsider how we label the standards just so we don't get into this situation where we were trying to get '05, now '05 has changed, you know, kind of late in the game. And now we have vendors kind of backing out and, you know, there are cost factors certainly for them, and time considerations.

MR. MASTERSON:

I appreciate your concern and I hope I can relieve those just a little bit. I think those concerns are very valid, and part of what when we hear this idea of, what we didn't want, and what we heard at the roundtables was this concept of the moving target – that things are constantly changing. And I think we are very

sympathetic to that concept. And so part of when we looked at what to incorporate into this revision, not I'll refrain from using 2005, I'll just call it the Revision now, what we looked at was not not creating this moving target as much as for the most part clarifying already existing standards in the 2005. Now there are some exceptions, but most of those exceptions are areas where it's been indicated to us that it would not be hard to create this upgrade, or to create this you know whatever, this patch, whatever you want to call it, to upgrade to that Revision. So it's not too much of a moving target at all, but instead, the coding standards are a good example where the vendors have said to us, "We have to code this way because of the 2002 and 2005, but there's updated coding that we'd really like to try to use." And so, instead of mandating this new coding standard, we're saying, "If you want to improve your coding, you may, and this is how you may go about doing that." The other part of that is we didn't see the rush to submit systems to the 2005. As I stated, I mean MicroVote, and it's sort of from conversations we've had, the vendors have basically said, "We're in for the 2002, we don't know about this 2005, but we see this huge gap from 2002-2005 to when we believe the next iteration may be, may be implemented. And we want to be able to have this consistent testing now. And so, we recognized the moving target, tried not to create that situation, but instead just clarify within there

and bring it up to date that way. So that we don't obsolete the 2005, but instead give the vendors reason to want to submit their system to it. So that was our thought process, but I think your concerns are very valid that way.

MR. HANDY:

Thanks Matt. Nick Handy from the state of Washington, state representative. I guess my question goes more to the role of the Standards Board and the relationship between the Standards Board and the EAC. Seems like the last time we met was at the end of 2007. We were all collectively very focused on this idea of the new iteration and we were commenting on those ideas. We didn't meet in 2008 and here we are in 2009 learning about a decision that got made by the EAC at some point in 2008 to take this collection of ideas that we were talking about together and to really divide them into two groups. Some of them would be held back and would go forward in the new iteration in the future, some of them were going, half or whatever, are going to come back and were going to go into this revised mode for 2005. Was there really any consideration at some point in 2008 for convening this body to talk? It feels like a big decision, it feels like a big decision to push back the new iteration and to actually go back to the 2005, and it just really has to do with, I guess, the role of this body. Was there any discussion or consideration given to convening this group and

having the discussion we're having now at that time about whether it's a good idea and which idea should go forward and which should come back? Because I think we're all kind of sitting here digesting, what does this mean for us and what does it mean for the systems? So, anything you could kind of shed on that would be helpful Matt.

MR. MASTERSON:

I'm going to tread lightly because I don't want to speak to what was considered, you know, I'm not the DFO. The Commissioners run the Boards and I don't know what considerations were, or were not, given in that way. What I can say I think safely, is that when we started looking at this the timeframe, you know, when it was, was about March, I think, 2008, of last year, about, I think that's correct. And, as a result, as I said, the roundtables that we had as well as feedback that we received in the public comment period as well as feedback we've gotten from our Certification Program. So we started looking at this possibility and realized that it was of little value to us if it was going to take three years. So, we wanted to do something relatively quickly to be able to improve this now. And so that was the consideration that we, you know, those of us working with the standard, were looking at. I don't know about the Standards Board or Board of Advisors or whatever. The other part of that is when we looked at HAVA we saw that there's a very important, I think a very recognized role for

the Standards Board and Board of Advisors in looking at this standard, that there is that comment window, that we have to see your resolutions, your comments. And so we saw that and we wanted to follow the HAVA prescribed process for revising the VVSG. We looked at HAVA and said this is the prescribed process for revision and that's what we looked at. And so, you know, from the perspective of looking at the standard, we said what do we need to do to revise this standard? And that's what we looked at. As far as consulting the Boards, I'm hesitant to offer any comment just because I'm not the one that makes those decisions as far as that goes. And, you know, I understand you're digesting this now, but part of the reason we felt it was really important to brief you on this now is because that HAVA prescribed comment period for you all, that 120 day window is coming up and we want to give you time now to start to digest that, to ask us questions, whatever, because it's not a done standard. It's not, we're just working on it now and these thoughts, just the information I've collected standing in front of you today has been very valuable to me, I know, working with the standards and I have a feeling to the Commissioners who have to make the policy decisions. So I hope that kind of at least answers your question.

COMMISSIONER DAVIDSON:

(inaudible)

MR. MASTERSON:

Brad, do you need her to come up to the mic? Do you mind Commissioner Davidson, only for transcription purposes. Or find any mic, I guess. Far be it for me to tell you what to do.

COMMISSIONER DAVIDSON:

Well, since I'm the DFO, my name is Donetta Davidson, to the TGDC, I thought it would be proper for me to come up and speak. And the reason why we held your meeting, we took kind of, I think it was Boards of both sides, the Advisory Board and the Standards Board, and we wanted comments, obviously, on the VVSG that had been submitted to us. And that falls into the time, and we didn't want to push your meeting any closer to your presidential elections. I mean, election year was big this last year. So, as we moved into that, we saw that was the timeframe we had it. We can really only afford to get you guys together once a year. And I'm not sure if we'd have had many of you show up, if we'd had a second meeting.

But the reason why we moved forward with this, is, we did have this at our public meetings. Our public meetings are up on the virtual -- or not the virtual website, but they, you can see those, they are up on the web cast. And it was presented at public meetings. I also spoke about it at NASS and NASED, in the summertime. Obviously, it didn't affect as many local people, but we also spoke

about it at Election Center, IACREOT. So, we tried to get the information out as much as we can, could. Did we bring you in to decide what could we put into, it was such a timeframe that we felt like if we didn't get this done at the time, and move forward where we could improve the testing, as they talked to you about, then we weren't helping in that process. And as they stated, the next iteration that we were given, the next iteration is going to take hardware change, software change, it's going to take development, designing. So, we know that that new equipment that you're going to be seeing in the future, is the future. As Matt says, our labs are going to have to be certified. Now, I can say to the Standards Board, possibly, the reason why you guys didn't hear as much about it as we should have been giving you, is, falls into the Commissioners' fault. We had, when we had, Caroline Hunter was the DFO, then we went to Rosemary Rodriguez as the DFO, and I think, between those two, and your monthly meetings, or however often you have your meetings, I think that is one of the things that fell through the cracks, because of changing of individuals from the Commissioners, the DFOs for the Standards Board. That I can apologize for, because I'm a Commissioner. But, I think that's where that happened, where you weren't notified as much as everybody else was, and looking at what the process was. I do apologize for that portion of it. I think that's where it happened, but

we did do it in public meetings, we've done it several times, so it wasn't something we were trying to hide, obviously. We tried to make it very transparent. And I do apologize that the Standards Board was left out of that movement forward, as we moved into the future. John, you got a question for me?

MR. LINDBACK:

I do. Thank you for joining us. You know our system is so unique in Oregon that, that you know, we don't suffer, I don't think, as much as other states. Excuse me, John Lindback, Director of Elections in Oregon. We don't suffer as much as other states, I don't think, when there's a sort of slow down in the certification which is what we've experienced. But what I'm hearing in this room is, concerns me, and what I've been hearing for the past year from my colleagues, and that is that the pace is such that it's having the effect of freezing the market. There's not new stuff coming out. What we hear from the vendors is one of the effects is there's not a lot of motivation for development. And I think it would be good to have a conversation, if the EAC could lead that conversation, about what is the appropriate pace and schedule for turning out new versions of standards. I mean labeling them is one thing, but what we're all talking about here is we're getting a new set of standards whether you call it 2005 Revised or 2007 or you put some other label on them. But building some regularity into the process I think

would be good for all parties. I don't know what the answer is, whether it's, you know, you do one version every five years and you do whatever is done and that's your new version, and then you work on the next version for the next five years, or what. But some regularity into this process is needed and I think a conversation between the Standards Board and the EAC about that would be very helpful.

COMMISSIONER DAVIDSON:

I'll start, and then we'll let Matt finish with this. But, the new version that we're going to finish, that will require new hardware, software, design, the whole nine yards. That's really the ultimate of what we felt like HAVA was requiring, and we're just now getting it accomplished. And we know that that is in the future. That one, when that is done, then I think that, that it is put to bed for awhile, because that was the goal of HAVA. It says that we have to review the standards every four years, I believe it is, three to four years that we have to review it. But it doesn't say we have to change them, the HAVA does. But this is the main one. Our goal was set, obviously, when the EAC was formed. 2002 was done by a different organization, and that was one that we kind of, we didn't officially adopt it, but we inherited, I will put it that way. And then, as you know, the 2005 was so fast, and what really HAVA required, was this one that we're getting to now, a full revision. And that is

what we're getting done, because, as, I think John Wack spoke, he thought two years would be plenty of time, but when you're going through it, it is more difficult than what you really realize. We could have added even more if we'd had more time. But I think you're absolutely right. What is the normal standard of how long should it take to get a system through. And that's been, really difficult for us to kind of look at and say, "What is the normal time?" I think when NASED had it, it took over a year to get it through. So, we kind of took that idea that it would take over a year. We did run into a wall that we didn't think we would. We thought the laboratories would be ready. We thought they were the one area that we wouldn't have to worry about, because NVLAP was certifying, and we thought they would be ready to go. Well, we had one that failed, and they failed and it held us up, because three-fourths of our equipment was in that one laboratory. So, that held us up 10 months to a year. I'm looking...

MR. MASTERSON:

It's hard to say, but several months.

COMMISSIONER DAVIDSON:

It held us up for several months. Now they are out in different labs and we can work them through much faster. We don't have authority by Law to say what laboratory they go to. That, the manufacturers get to pick the ones they want to send their

equipment in to have it certified. I think it is, once we start getting some of these done, and our laboratories are working, and we're on top of our laboratories the way we should be, as well as working with the manufacturers, I think we can have that discussion. And say, what's this going to take, so we know. And I think, it's also imperative that the manufacturers, they know that they've got to have their system ready for testing. They're beginning to test it now, before they send it in, to make sure that it's doable, to have tested. That's the other part of it – how ready is the manufacturer ready for testing? And I think we saw that when we were in NASED. I was in NASED, and it failed, and they had to take it back and work on it. And we've seen it this time. People have pulled it out for six months, worked on it, and then sent it back. So, that's the type of thing, you know, that does give variation into it. But, I think, if we get through this certification, and we have worked at speeding up our process, and make that we're not falling down, to have delays, because our reviewers are taking longer that what they should. So, in moving forward in that area, I think that we can have that conversation in the future. And I think it's a good thing to have John, and everybody else. I think it is really, it's one we all need to discuss.

MR. MASTERSON:

The good news is, with your point, just about updating the standards, this is something that every certification body struggles with, whether it's state, local, so thankfully, this is somewhere where we can look somewhere else and say, hey, you know, the gentleman from the Nevada gaming commission is here tomorrow. It would be great to know what they do. I have a little knowledge, but, so that's something we can talk about. I know what they 2005, our thought process was, when looking at the next iteration is providing this comprehensive, we're hoping that updates won't have to happen as much. When we're issuing interpretation after interpretation after interpretation, of the 2005, we looked at it and said to ourselves, man, there's vast clarifications that need to be issued to this 2005 VVSG to clear up these ambiguities. We can't continue, it is not good for our testing process, and I think the manufacturers will tell you, it's not good for them to have these constant interpretations coming out. It just doesn't make for good consistent testing. And so, that's sort of what spurred this, as well as comments and roundtables and stuff.

COMMISSIONER DAVIDSON:

Don't you think that slowed down the process?

MR. MASTERSON:

I mean, it contributed, because some stuff had to be retested, whatever, based on interpretations, and there's questions

about when interpretations become effective, and that's a challenge for us as well.

MR. LINDBACK:

Well, going back to this – John Lindback, Oregon – going back to this freeze in the market that we're experiencing, and this is all hindsight, but maybe one thing that might have helped, and again, it's hindsight, we have a set of 2005 standards. We're sitting here in February 2009, and it's likely, even under the scenario you've mapped out here for the revisions, it's highly likely that we won't have a new version until 2010, that's five years. And if we had, again in hindsight, decided in 2005, we'll have a new set in 2010, that would have built some regularity into the process for the vendors, and maybe, just maybe, helped with that freezing of the market situation.

COMMISSIONER DAVIDSON:

And you know, I think that's a good point. As we move forward, we should remember, I mean, we're building a history, how long it takes to work with NIST and our TGDC, to develop the standards. And if we allow, in the future, two or three years to do that process, and then, what's it going to take to get it to the Commissioners, to have it vetted properly through public comments, and the Standards Board and Board of Advisors, if we build all that in, we are going to know that it's going to be no sooner

than about six years, probably. If you did it properly. It means you're going to have to recertify your labs too.

MR. HANDY:

I just have one more follow-up if I could. Thank you Commissioner Davidson for your comments.

COMMISSIONER DAVIDSON:

Are you through with me?

MR. HANDY:

I am. I was going to ask Matt a question. I was going to let you off the hook.

Matt, you might have answered this before, but...

CHAIR BARTHOLOMEW:

Excuse me, but can you please identify yourself?

MR. HANDY:

Excuse me, Nick Handy, State of Washington. I just wanted you to clarify this. When we're done with this process, will there be one 2005 standards, or two. In other words, will there be the 2005 Revised Standards and that's all there is, and so, 2005 Original doesn't exist anymore? Or will we have two sets of standards – 2005 Original and 2005 Revised?

MR. MASTERSON:

That's a very good question, and the answer is, that's a policy decision for the Commissioners. As you know, with the 2002

to the 2005, they put in a hard implementation date of, I think it was December 13, 2007, and so at that date 2002, any system submitted after that date could not be tested to anything other than the 2005. I think the Commissioners have options on that, that staff can present or whatever. In the end, they're going to have to decide on, you know, maybe you keep the 2005 running for awhile, and then the 2005 Revision, you know, that's feedback we're going to need to get during the comment period from, you know, you all, manufacturers, labs, on the best way to handle that, so that it's effective, and it is something that can be used, as opposed to not being useful. But I think there's a lot of options on how to handle that. I don't think that there's just one, you know, this is it, it's done. But that's a Commissioner decision.

MR. WEIR:

Steve Weir from California. I'm representing the locals. Following up on John Lindback's suggestion of a need for a discussion of where we are today, and I'm not putting this on the EAC, but I'm looking at the potential of a wholesale collapse of the industry and having to deal with a cannibalized system, where I'm now going out trying to find the service to take care of the Buick that's no longer supported by General Motors. And, that's very awkward. This may be our last chance to get this thing right and we may actually be too late. And so, I think one discussion that

needs to take place, and I don't know how to facilitate that, is what's Plan B? What's Plan B if we now attain a really good testing system and there's no one to test. And, for me, I'm looking at the possibility of having a system that I have to go out and find sort of a cottage-industry support network to keep me in business in 2012, 2014.

MR. MASTERSON:

I appreciate that. And that's one of the reasons that we held the Cost of Testing meeting in Miami, is to explore exactly what you're, because we're hearing that from the industry, from the laboratories, that, you know, your system can work as well as you want it to, but if there's no one to test, what value does it bring? And so, we've started those discussions and I think you're right, we need to continue to explore how to deal with that. And, and we don't want that situation. I think you're right to want to have a discussion about, "what if", I suppose, but that's discussions we've already started, and will continue to have, because we recognize that problem.

MR. HARRISON:

This isn't a technical question in your area.

CHAIR BARTHOLOMEW:

Excuse me, can I get you to identify yourself?

MR. HARRISON:

Oh, excuse me, Allen Harrison, Arlington, Virginia, local election board. Is there any plan for asking the Congress of the United States to, again, insert funds for localities that will be obliged to purchase new equipment that has been certified, in order to meet, and get the new equipment that is being required? There was some funds under HAVA, not a lot. We've got some districts in Virginia that, certainly, they don't have the funds in the locality to go out and buy new machines every five years, I don't think. Secondly, is there any plan to encourage the Congress to have a stimulus package or earmarks for the manufacturers of voting machines? It looks like they may need some help. What can we do to keep them, as the gentleman here says they're going out of business, keep them engaged and maybe get some, get more interested, and having the funds to do it. I don't know what it costs to get the certifications through, but I understand it's not inexpensive. Thank you.

MR. MASTERSON:

I think my answer to this, and I'll look at Tom Wilkey to see, we're not allowed to lobby Congress. Is that correct? But I'm sure you all have plenty, you know, have groups and avenues by which, if that's something you feel is necessary, to do that. And far be it for me to speculate on who may or may not be bailed out next.

Do you have a question?

MR. CAMPBELL:

Bill Campbell, Massachusetts. I believe it is for the Commissioner's. It's a matter of where we are – the process now. We met in December '07, and if, I can't believe it was that long already, and we did a lot of work on the, making recommendations on the standards. And now a year went by, if I'm following this correctly we're not going to do the whole thing, we're going to do parts of it. But as Commissioner Davidson said, the whole point of HAVA in 2002 was to get where we're going. But we can only meet once a year, because we only have enough money to meet once a year. Did the work we did in 2007, is that going to be sufficient for us to get where we need to go? To get where we're supposed to be?

[Laughter]

MR. MASTERSON:

Just nod your head if I'm right. First of all, I think I understood you, and if I didn't I apologize, we are doing the entire next iteration. There's no plans to just take portions out, put it in the 2005, and leave it at that. The document you commented on in December of '07 is going to get finished and we're going to have that full rewrite of the standards. Nothing has changed in that plan. So...

COMMISSIONER DAVIDSON:

And they're going to get to comment on those again.

MR. MASTERSON:

That's right. Also, you're required to be allowed to comment on, not only this Revision, but we're going to have another public comment period on the next iteration. And so, there's going to be bountiful opportunity for you to comment on the VVSGs that we're talking about. The other part of this is, I think, in your briefing books, NIST has prepared research topic areas that cover those resolutions which you passed in December '07 regarding the next iteration of the VVSG, essentially, attempting to answer the questions in the areas that you asked for research to be done in December '07. And so, I can tell you without question, your feedback from December '07, just as your feedback later on this year, just as your feedback down the road, is vital to this process. It wouldn't have been put into HAVA, and we take it very seriously, and it's taken into account while we're working on the standards. So we appreciate the efforts that you all went to in commenting. And we do take them very seriously.

COMMISSIONER BEACH:

I also would like to make a comment, too, on why we, you know, limited funds and we probably won't be able to meet again, as a whole, in person this year, this fiscal year. Certainly, we can take advantage of a virtual meeting and have something on-line, so

when there are the next iteration or documents that are ready, and in a timely manner, if it is ready, you know, within this fiscal year or something thereabouts, we can meet via virtual meeting. So, that's something that we can consider and discuss. So, we can move this right along and not have to delay another year until we meet again, in person.

MR. MASTERSON:

And this is for Russ Ragsdale and John Lindback mostly. The specific comments made by the Voting Systems Committee about, you know, from typos to everything else, are being resolved and taken into account in our resolution process of the comments. And so, those were again, you all put in a lot of work, a lot of time, and we need to resolve those and make sure it's public to you all how those were resolved. And we're committed to doing that.

MR. RAGSDALE:

Matt, I have a follow-up question – I'm still waiting on my paycheck. Russ Ragsdale, local, Colorado. It seems like a lot of the discussion here, it involves the state statutes – does your state require Federal certification? I'd like to have a question to the body here. How many of you in your states have had recent legislation or are contemplating current legislation pulling back from requiring Federal certification? Are we seeing a trend in that arena? I wonder how it all fits in the grand scheme of things that we're

putting all this effort into Federal certifications, but yet some states are backing away from requiring Federal certification for this very reason. And I'm very concerned how that affects the industry when you now have individual states setting up their own certification process. That's another spin-off from this that has to come into play and has to cause concern.

CHAIR BARTHOLOMEW:

We have a couple hands, several hands actually. Let's take the one on the left, my left, on the, yes sir.

MR. WHITE:

Thank you, hi, Dan White from Illinois. That's exactly what we're considering. We just had a Board meeting this past February and a major part of the discussion on behalf of our Board and our election authorities in two of the larger jurisdictions in Illinois was in anticipation of the 2010 elections and how we would go about getting the upgrades and the modifications to these systems that need to be done before that. So, we're looking ahead a year, but as we all know in this room, the time goes by very quickly. And one of the topics discussed, and that we are actually reviewing and will be reporting back to the Board, is whether we might want to establish perhaps broader guidelines at the state level and thereby surpassing some of the Federal certification. We certainly don't want to do that, but it is a topic of discussion we feel almost out of

necessity to review and see what's the best prudent course of action as we go into 2010. So that's exactly what we're looking at in Illinois.

CHAIR BARTHOLOMEW:

We'll take this one over here.

MS. FLYNN:

Julie Flynn from Maine. I guess a follow-up question maybe is from all the states here, and territories, how many of us do not require certified systems to be used? Because Maine has not yet required it and, frankly, will not require it until we have a stable certification system that can produce results and get systems available for purchase that are certified through the process. So I guess I'd like to see are there any other states besides Maine that don't require the use of certified systems presently?

MR. CAMPBELL:

Bill Campbell, Massachusetts. Is that certified on this level, or certified by your own Secretary?

MS. FLYNN:

Certified on the Federal level. It's not a very good place to be in, if I may say, to be out of compliance with State Law, that you don't have a certified system, but we're very pragmatic in Maine and we're not going to require something that can't be done. So, I guess that's where we are.

CHAIR BARTHOLOMEW:

We had a question from Dale Fellows.

MR. FELLOWS:

Thanks you, Dale Fellows, Ohio. My question, Matt, is if a system is already certified and they wanted to upgrade to these new standards, or at least parts of it could be, would they be able to do that? Is it going to be cost prohibitive? Is it going to be time prohibitive? Just so that they can have that option if they want.

MR. MASTERSON:

I'd say the answer now is we don't know because they're not done. But certainly one of the things we took into consideration when we talked about not requiring major hardware and software changes is making it as easy, without compromising the rigor of the program, as easy as possible for the manufacturers to be able to implement some of these changes. I know I keep going back, but the coding standards are a really good example because, as some of you are probably aware, some of the coding standards in some of the systems you're using have been layered and frankly the 2002 and 2005 VVSG have some dated concepts of coding and the manufacturers have said we want to change the way we code somewhat, but your standards aren't allowing us. And so, we want to create that flexibility for them to be able to do that. But we understand the cost implications and one of the things the

Commissioners are going to have to look at when decision how to implement this Revision, is the best way to allow vendors to get into our process with that.

MR. FELLOWS:

Dale Fellows, Ohio. If I just follow, so they won't necessarily have to go back, like their whole system, if they just wanted to upgrade some part of it? They wouldn't have to go back and do the whole, almost like start over?

MR. MASTERSON:

An end to end, I mean, our manual is very clear about the modification process and how modifications are submitted to us. Our Testing Certification Manual lays that out so that, you know, what's considered a modification and what's considered a completely new system, and how we take that into account. But no, certainly the intent is that modifications can be submitted and we test those modifications.

CHAIR BARTHOLOMEW:

Commissioner Hillman would like to address us.

COMMISSIONER HILLMAN:

Good morning. I couldn't resist the opportunity to respond to Mr. Ragsdale's comment. And those of you who have heard me speak before have probably heard some version of this. The transition required, to get from where voting systems standards

testing and certification were in December of 2003, when the Commission was started with no resources, to where it needs to be, takes time, resources, and a certain amount of patience. And, I fully respect states have to do what they have to do, to be compliant with state law, and to assure the voters that the systems they're using are accurate, reliable, secure, and all the things we need systems to be. And, from the 75,000 mile high view, this process is working. It's frustrating now. It's probably more frustrating for me than a lot of other people, because I've lived this every day since December 13th of 2003. And EAC never had the resources or the time to expedite this. Plus, we weren't modifying or improving an existing Federal program. And by program, I mean the testing and certification. We were starting from ground zero. And in all of my career I've come across a lot of challenging opportunities. Nothing has been more challenging than trying to get something new started in the Federal government. Plus, we have many different constituencies who wouldn't agree with half of what you are saying, or what, with half of the people in this room. So, sometimes EAC gets whipsawed between what various constituencies demand and expect of this process. So, I appreciate the states that are saying, "Well time out, I'm pulling out because you know what, I don't have time for this." And all I can say is that I want to be in the room four or five years from now, when you're

saying, "We're back at the table because we really like what the Federal government can provide the states, with respect to standards, testing, and certification. I won't be there when that happens because this is my last year on the Commission, but I know it will happen. And if I'm not there physically, or the fly on the wall, I will be there in spirit, because I know at the end of this, there will be a brand new, first time for Federal government process that will deliver what the states and local jurisdictions need. Thank you.

MR. RAGSDALE:

Russ Ragsdale, local, Colorado. I just wanted, for the record, to make sure Commissioner Hillman understands the sole purpose of my remark was to draw her up here.

[Laughter]

CHAIR BARTHOLOMEW:

Okay, I saw three more hands. Jim Silrum in the back, are you still wishing to comment.

MR. SILRUM:

Jim Silrum from North Dakota. I guess what follows here Matt is, I know this is a vendor question, but you've been in conversation with the vendors. Are any of the vendors rushing to, you know, saying, "Oh boy, you guys are doing something great now. We're going, we're going to go for this." Or is this really just a chasing after the wind and a stopgap for nothing and we should

really still be focusing on, completely on that next iteration of the standard where they can move to create their new machines. Because most of us bought our machines before the deadline that was set in HAVA. And most of us are trying to maintain those machines. So the only reason we're waiting for certification is to get our updates. I feel for those states and jurisdictions that want to buy new equipment right now because you really want to buy the latest and greatest, but most of us bought, and most of us are still trying to cobble those together to make sure that we're running our elections. So, where does it stand with the vendors, from what you know from talking to them?

MR. MASTERSON:

Sure, and I guess I'll start with a preface. And that is, I don't want to try to guess the vendors' position. I know David Beirne from the Election Technology Council is here and he can probably speak a little bit to their perspective. What I can say is that we've engaged them in trying to not have a standard in the 2005 that is obsolete. That's not usable looking at the fact that the next iteration is down the road, you know, a piece. Not sure of the date, but the implementation of it is down the road a ways. What I think I can safely say is that the vendors certainly want more consistent testing from across the labs. I don't think that's just a goal of ours -- I think that is something that the vendors want so that they can go from

lab to lab with confidence that their systems are being tested the same way that their competitor's is at the other lab. And that's one of the things that this revision is going to bring to our process, sooner rather than later. And that consistency, I think, is something that all of us can agree is a positive in that way. And, as I stated before, we don't see the rush to certify to the 2005, and the next iteration is so far down the road, that we need a standard that they're going to want to test to. And so we'll continue those conversations to figure that out.

MR. SILRUM:

Jim Silrum. As a follow-up on that, you said yourself earlier that there are only a couple of systems that are going for 2005. Most of us are looking for 2002. Most of us are looking for that standard that is, well, many years old. And that's because that's what our systems can handle. That's what our vendors are telling us. If it were to go to a 2005, it would take significant hardware changes, so the reality is that the present-day situation is that most of us in the room are looking for 2002. And that's it. We're not making any advances in that area where most of us need to go. Does that make sense?

MR. MASTERSON:

It does and that's why I think that the manufacturers that you see in, chose to go to the 2002, to get updates out, not to get their

latest and greatest system out. And so, they got in under the, the fact remains that the 2002, at this point, has sunsetted, so any systems submitted now have to go to the 2005. And so, if we're going to get those latest and greatest systems, we'd sure like to get a VVSG in place that's testably consistent and allows for those improvements from there. So, I understand what you're, they're in under the 2002 for those updates, and, you know, as I stated, we're trying like heck to get those updates out to you, and I've certainly talked with you about the concerns and I appreciate what you're saying with that. And from there, I mean from here on out, those system, no other system that's new to our program can be submitted to the 2002 anyway. You know, that ship sailed. So, we'd sure like to improve this 2005 for the reasons that we stated. But I do appreciate your concerns in that realm.

MR. SILRUM:

Jim Silrum again. I'm just saying we need to do some extra efforts to hurry along those systems out, you know, that are in there right now. I mean, the sunset clause was the middle of December of 2007 and here we are in nearly March of 2009 and we're still not any closer, even though there is a 120-day window that has been opened, but we don't know – you've said yourselves we shouldn't think of the fact that a system will be certified within that 120-day window.

MR. MASTERSON:

And I only say that because that's the nature of certification. You know, you test to the standards and the system meets it. I have no reason not to expect it, but we are going to test to our standards. That's the best, the only reason I put that in there. We never take a system in and just assume certification. And that is why I say that and I know you all understand that concept. All I can tell you, and I don't know if this is going to make you feel better, every -- my entire efforts, and I can tell you Brian Hancock and Laiza Otero's entire efforts and Robin's are trying to get these systems out. We hear that they have to get out. Not that we didn't hear it before, but it's critical, it is critical and all my efforts every day are spent on the phone working with labs, and I hear you. And I'm not going to offer you excuses or reasons, but to say, "I promise you they are moving forward. And I promise you, I personally, and the rest of the Certification Staff are making every effort to get these things done for you." That's the best I can offer and I'll leave it at that..

CHAIR BARTHOLOMEW:

If we can go next to Michael Cragun. Do you still have a question? Anthony Stevens? No? Any other questions out there? Yes, Stephanie?

MS. CEGIELSKI:

Stephanie Cegielski, state of Colorado. Quick question.

The systems that were with the now, last accreditation lab, what's happening with them.

MR. MASTERSON:

The systems that were in with...

MS. CEGIELSKI:

That were in with SysTest, that were in the testing process or completed the testing process, what's the status, since there were so many.

MR. MASTERSON:

That's a great question. We've updated the website on this. It was a system to system, our Manual allows manufacturers to request to change labs for a variety of circumstances. And it's at our discretion to allow that lab switch. So, the manufacturers that were in with SysTest had the option, and several of them chose to request a change, and we granted those changes without, I mean, we had to, they were suspended. I mean, we can't you have to stay at a suspended lab. So all those who requested were granted immediate leave to go to whatever lab they wanted, the manufacturers choose the lab. I can tell you that two of the systems that I know of remain in SysTest waiting to see what happens to them. And those are the Dominion system that's in for testing right now and one of the ES&S Unity 4.0 systems remains in

SysTest right now for testing. And that, you know, they can request and we can, you know, probably grant because they're still on suspension.

MS. CEGIELSKI:

Follow-up question. Stephanie Cegielski, state of Colorado. So, if they request to switch labs, does all the testing go or do they have to restart the whole testing process, do they just lose, you know, because we as a state look at how is that going to affect...

MR. MASTERSON:

Sure, sure, and that's a great question. We have rigorously documented our re-use of testing. Our Manual, again, allows for allowance of re-use of testing at our discretion. We have issued letters to any of the companies that have attempted re-use. I will say that for the most part re-use was allowed after a thorough review by the lab that they switched to. So, in most cases, that's iBETA, after a thorough review and recommendation from iBETA, we looked at their recommendation, looked at the review they did, and then re-use was either granted or not. And we clearly documented, it's all up on the website, so it's very clear what was allowed to be re-used, what's being retested, and what's left to be tested.

CHAIR BARTHOLOMEW:

Are there any other questions for us?

MR. MASTERSON:

John's getting bored.

CHAIR BARTHOLOMEW:

Yes, John.

MR. LINDBACK:

John Lindback, Oregon. I can think of at least one group that was encouraging some additions to the, I can't remember, what version did we review in Austin?

MR. MASTERSON:

The next iteration.

MR. LINDBACK:

Right, that wanted stuff added to those that were not, and it was not in them. And I presume you had some other comments like that as well. And that would be stuff that would have to go through the TDGC process. I'm assuming an example of this is standards relating to the ability of systems to accommodate ballot design features. They weren't in that version that we reviewed. So, what happened to that stuff? Is that going, you know, are we going to wait until 2015 for that, or, and is there any hope of that kind of stuff getting considered soon?

MR. MASTERSON:

I will say that there's no hope for it getting put into this 2005 Revision. In order for this 2005 Revision, I'll just call it the Revised

2005, to get in place in the time that we were looking at to improve our testing as soon as possible, we didn't have time to write new standards. But, I think one of the beauties of this Revision is that we are now allowing ourselves time to look at those very areas. And I think a lot of those were highlighted in the research tasks that this Board and the Board of Advisors sent to NIST. And so the first step was responding to some of those revisions in the document that's in your packet. But now it's time for us to look at if developing, you know, developing standard for what you're talking about, some have mentioned e-poll books. You know, that's something at least that we've been told that we need to look at. And now, by creating this revision to the 2005, we can look at those research areas and say is this something we need to develop new standards to? And the Commissioners can make a decision, you know, on that with the knowledge that we've now updated our standards to the state-of-the-art as best we can. And now we can look at that next version and do what we need to do with that. So, we buy ourselves a little time to do exactly what you're suggesting by doing this 2005 Revision.

CHAIR BARTHOLOMEW:

John, John Wack did you have anything else that you'd like to say?

MR. WACK:

I have a bunch of questions for Matt too.

[Laughter]

MR. WACK:

No, no, the only comment I'd make, maybe, in closing, since I'm out of this process to a great degree, but there were some comments made, or maybe some questions asked about how much change -- is this going to make it a whole lot more difficult for vendors? And I can't really answer that. But, kind of stepping back and looking at some things, there are some things in this Revision that actually could make it easier for vendors to meet than 2005. For example, the external interface requirement that I talked about required a hardware change in 2005. So, this Revision doesn't require a hardware change, that can be done in software. And there was another change too, oh, the coding standards, the coding standards, it was something the vendors actually wanted. What they basically said was don't replace the coding standards that are in 2005, but allow us to do basically newer ones, or pick ones that are credible. And so that's in there too. So that basically helps them out. In other areas with VVPAT and the HFP requirements, the changes in the Revision are relatively minor, you know, pretty minor in many ways. So, you know, we don't see big issues there. There are some things actually in this Revision that could make it

easier to actually meet, could speed up perhaps the development process for meeting the 2005. And with that, that's about it.

MR. MASTERSON:

Can I just, do you want to take more questions?

CHAIR BARTHOLOMEW:

I see two hands. We'll take Anthony's first and then Jim and then we'll wrap it up with Matt and head off to lunch.

MR. STEVENS:

Anthony Stevens from New Hampshire on the state side. With regard to the making it easier, my question is, would it be possible for EAC to make it easier for those older systems to be upgraded to the 2005 standards by administratively removing the requirement for the read back. There's a read back requirement in 2005 and it may be one of the reasons, it occurs to me, that why the older optical scan systems can't get into that system, that process. Now that you've made it easier for them to get in by using this external interface, this software only interface, it strikes me that maybe they could sneak into, or get into the 2005 program if you got rid of that read back. That, as you may know, we, the Standards Board adopted a Resolution along time ago suggesting that that go into some future version, but not the 2005. And that, my thought is maybe the EAC could simply go along with the Standards Board on that one.

MR. MASTERSON:

I think that's something we can look at and that sounds to me like the perfect public comment to receive from the Standards Board, again, on that while we're looking at revising the 2005. I mean, that's something that we'd certainly have to look at then. Receiving the comment again from the Standards Board I think is the way we'd handle that. But that's probably not a satisfactory response.

CHAIR BARTHOLOMEW:

Okay, Jim Silrum please.

MR. SILRUM:

Jim Silrum from North Dakota. John, I appreciate your comment about how it's going to make it easier for vendors to achieve 2005 certification, but what's their incentive in terms of cost? If most of the vendors are into certification now to a tune of somewhere between \$4,000,000 and \$5,000,000, under what they have chosen go in, either 2002 or 2005, and not having a certification. Is there a cost benefit that could be thrown into the mix that would say, okay, you've achieved one level of certification, we can guarantee you it's not going to cost that much money to make the next jump.

MR. MASTERSON:

I think you probably, my one thought on that is, anytime you can create a more efficient, consistent testing system, it is going to improve cost because you're going to get through the testing process better. So that efficiency improves cost. On top of that the creation of the NIST test methods, test suites will improve costs because it's already, our test labs are not going to have to develop test methods, test plans, but instead will already have that, and then just need to make them vendor-specific to the systems. That improves cost of testing there as well. So, those are my initial thoughts, the best advantages, where this 2005 Revision will help improve our cost of testing.

MR. WACK:

Thank you. The other comment I just wanted to clarify. I'm not stating that it will make it easier for vendors, but some of the changes I outlined were remarked upon by some of the vendors as good things that would make it easier for them.

MR. MASTERSON:

I just wanted to say thank you. You know, we're going to have more forums on this, more discussion obviously, and I really do, I hope I come across as sincere on this, I really appreciate your concerns, your comments. We're working hard. We're going to get these systems done and I know you're tired of hearing it, and you

just want to see the results, so that's what we're focused on now. I appreciate your comments, and thank you.

[Applause]

CHAIR BARTHOLOMEW:

Okay, I'd like to take this opportunity to remind you again that lunch is at 12:15 in Seminole B which is behind us. Additionally, we have a lost Blackberry case up front here. And we will be enjoying our campaigning, three minutes by each candidate during lunch. So, I'll see you next door.

[Lunch break]

CHAIR BARTHOLOMEW:

Thank you Sally. If I could interrupt you all, while you're eating your lunches, or your desserts. That was a wonderful lunch and I thank the EAC for planning that. That was awesome, thank you. But we would like now to take this opportunity to let our candidates campaign for a short while so that you can get a chance to see the face that goes with the name, and that will help you in about an hour and a half to two hours to cast your votes. So, I'm now going to turn the mic over to Lynn who is our Nominating Committee Chair and the Elections Committee Chair. Lynn Bailey from Georgia.

MS. BAILEY:

Thank you Tonni. At this time I would like to call all the candidates forward, maybe over here. So if you are a candidate on the ballot, if you would come on up.

Okay, I'm just going to go straight down the ballot here and the first name I come across is Dan English. So Dan, if you'd like to come up. Please note candidates you are limited to three minutes, so that's your timeframe, and here's Dan.

MR. ENGLISH:

Well, thank you. I'm Dan English from Kootenai County. We're a county up in northern Idaho. And from the ballot you can see there are only two choices for local election officials and I know the motto that "good competition makes good candidates," but hopefully we'll do okay anyway, Russ and I. We're a county of about 130,000 or 140,000 people. We're a central count optical scan county. I've been on the Executive Committee I think for about two years now. And one of the things that I got some feedback at the time I got elected is to make sure that you keep in mind the rural folks, the smaller counties. Idaho is certainly a smaller state, and even though we're one of the larger counties in Idaho, we are mostly small, rural counties. So I certainly have that in mind and that's something that sometimes I feel like the reality of the economics and the cost of things don't necessarily get factored in. But that's something that local elected officials are mindful of all

the time and I certainly am. I've been a Clerk for 14 years. Before that I was also elected City Council and School Board, so I've looked at it in a number of different roles. I do enjoy what I'm doing and I guess if I manage to make it through the ballot I will be happy and honored to serve you again. Thanks.

[Applause]

MS. BAILEY:

Thank you Dan. And our other local candidate is Russ Ragsdale from Colorado.

MR. RAGSDALE:

Good afternoon, thank you. Russ Ragsdale from city and county of Broomfield, Colorado. Dan convinced me earlier today that because we're essentially unopposed that I should trim my speech too. After witnessing Dan's speech, apparently that's out the window. It's been a pleasure. I've been on the Board for two years, the last year as the Vice-Chair. So, just in summation, quickly, I appreciate the opportunity and the privilege of serving the Standards Board in this role. I really look forward to this year to recapturing the momentum and the engagement we had in 2007 and bring it back to 2009. So thank you, appreciate it.

[Applause]

MS. BAILEY:

Okay. I was about to say now is where it really gets juicy, but I've just gotten a note that Secretary Herrera has withdrawn as a nominee, so she will not be a valid choice on the ballot. There were six state candidates. There are now five state candidates, with five positions to fill. So, congratulations. No, I think, wait, wouldn't we still like to hear from them? We need to know them a little bit, so let's not slight them, and next I'll have Secretary Chapman from Alabama come up and tell us a little about her.

SECRETARY CHAPMAN:

They say whoever gives the shortest speech wins. God bless you.

[Applause]

MS. BAILEY:

The next on the ballot is Brad King. Now Brad is not able to be with us. I think he had something come up at the last minute that he couldn't join us. Now I have his bio here and I would be glad to read it to you if you...

[Negative responses from audience]

MS. BAILEY:

Okay, very good. Then that being the case, I'd like to next introduce Don Palmer from Florida. Don.

MR. PALMER:

Well, thank you for the opportunity. I just wanted to let you know a little bit more about myself. I think that in this position I would be able to assist and work with you all on different ways to comply with the Federal Law. You know, I've had some experience at the Federal level and there are best practices, you get to see all types of jurisdictions and how they caught, eyes in the headlights. I think I could offer some, some advice on how, best practices on the Federal level. Also you know, I've been the Director in the State of Florida, Division of Elections, and I think in that role we've had transition from optical scan, to optical scan. We also have a certification program where, you know, when vendors want to bring in equipment, we go through the certification process and when there are changes, upgrades they also come back through the certification process. And that is something that I think I could bring some experience, and its obviously something we're dealing with now, on making sure the Federal certification standards are something that is not only timely but also efficient going forward. I was in the military, actually I have a place in my heart for the UOCAVA issue, that's one of the statutes I enforced while I was at the Department of Justice. I think I've actually lived it and so I think I could also provide some insights on that sort of situation and how the states and local jurisdictions could find solutions to the transmission issues that we face today. Thank you.

[Applause]

MS. BAILEY:

Thank you Don. And next we have Jim Silrum from North Dakota.

MR. SILRUM:

I too have my bio and I'd be happy to read it for you. I didn't hear any "no's" so I guess I'll start in. That's probably enough. I mean, just remember there are no write-ins on this ballot, so I think that's probably enough. Gary, you said "wow you," did I do it or not?

[Laughter and applause]

MS. BAILEY:

Thanks Jim. And next we have Leslye Winslow from Missouri. Leslye.

MS. WINSLOW:

The conventional wisdom usually says the first place on the ballot is the best, but if you can't be first, be last on the ballot. So I was kind of interested to see how that worked this time, but I guess it worked fine. You have the bio and I don't need to go through it. There's a little gap in the bio. I started as a local election official and then I escaped and worked in private practice for awhile. But there's something about this vocation that just sucks you back in sooner or later, so now I'm back at the state level.

[Applause]

MS. BAILEY:

Thank you Leslye.

Before I turn this back over to Tonni, I would just like to say, those of you who are on the Nominating Committee, you are tagged as poll workers with the exception of Jim because he's a candidate. So, I guess, Julie and Nick, I hope you'll join me in helping the others run the poll from 3:30 to 4:15. And for those of you who are on the Election Tabulation Committee, if you would meet us at 4:15 in the voting room so we can get the election results certified, that would be great. And I think that's it. Thank you.

[Applause]

CHAIR BARTHOLOMEW:

While I was sitting there, it came across in my mind that I should take this opportunity to thank Lynn and the Nominating Committee. They've done an outstanding job and they moved this process forward in a way that was remarkable for the amount of time that they were given, as well as the By-Laws Committee. They took this at just a running start after that election and they pulled it together and I'd just like to thank them. Thank you very much. And that's it for lunch so we'll meet you back in the other room in about 15 minutes.

[Applause]

CHAIR BARTHOLOMEW:

At this point in time I'd like to turn the mic over to Russ Ragsdale to introduce a few late arrivals here.

MR. RAGSDALE:

Russ Ragsdale, local, Colorado. Yes, Madam Chair, our ranks have swelled. Daniel White from Illinois, Secretary Mary Herrera from New Mexico. Has anyone else shown up since our last amended roll call?

MR. ARTHUR:

Errol Arthur representing the District of Columbia.

MR. RAGSDALE:

Okay, thank you Errol. Anyone else?

MS. LAPLACE:

Angie LaPlace, Louisiana.

MR. RAGSDALE:

Louisiana, thank you.

MS. DEBEAUVOIR:

Dana DeBeauvoir, Austin, Texas.

MR. RAGSDALE:

Hi Dana. Anyone else? Okay. The fire marshal has told us that's it for this room. We're at maximum capacity Madam Chair.

CHAIR BARTHOLOMEW:

Okay, I'd like to take this moment and please remind everyone to turn off your Blackberry if you're connected to the internet. Otherwise they're okay. And to remember to use the microphone, and when doing so state your name and your location. Now I'd like to turn the mic over to Commissioner Beach.

COMMISSIONER BEACH:

Good afternoon. I hope everybody enjoyed lunch. At this time I'd like to introduce our team that's going to discuss the Voting System Risk Assessment Report. First, to lead off would be Dr. Alec Yasinsac from Mobile, Alabama. Dr. Yasinsac is the Dean of the School of Computer and Information Sciences from the University of South Alabama. He's also the co-founder and co-director of the Security Assurance in Information Security (SAIT) Laboratory. Dr. Yasinsac has 29 years of experience in application development, mainframe operating systems, and network engineering. He has published over 50 referred workshops, conferences, and journal papers on information security. He is also a Senior Member of IEEE and a member of the IEEE Computer Society and the Association of Computing Machines (ACM). He also co-chaired the sub-committee on voting issues, and has been a visiting scholar at the National Academy of Engineering and at Harris Corporation. With research interest in electronic voting systems, he also sits on the Florida Help America Vote Act

Planning Committee and was on the Advisory Board for the 2007 National Academy of Engineering 2007 National Meeting Symposium on Electronic Voting. He led the first academic source code review in support of an election audit for the 2006 Florida United States Congressional District 13 race, and has conducted several other electronic voting security code reviews and systems security analysis for the Florida Department of State. He routinely contributes to the national meetings and panels that address voting system security issues, and Dr. Yasinsac received his doctorate from the University of Virginia and was on the faculty as the Marine Officer Instructor. I would like to invite him up now and have him introduce his team.

DR. YASINSAC:

I guess that was me you were talking about, that was a lot of stuff there, but thank you very much.

COMMISSIONER BEACH:

Very impressive.

DR. YASINSAC:

Thanks very much. Thanks for having us here. The whole team is excited about being here. We came up, many of us, from Mobile, which is, you know, the founding city of Mardi Gras. And a lot of people think it started in New Orleans, that's not true, it started in Mobile. About 11:30 on Fat Tuesday p.m., I decided to

give up power point for Lent. For some reason it didn't take. We have about 50 slides, it may be because I'm a Baptist, I don't know, but... We've got a lot of slides to get through.

And I appreciate the extended introduction, it's really not that impressive, but, it sounds a lot greater than it is. I'm just a guy. And I have, the wonderful thing about my life and careers is that I've been surrounded with great people. And I am so, at the University of South Alabama, and specifically on this team that's doing the EAC's Voting System Risk Assessment. And so I'll give each of the members here brief introductions, far briefer than I received. So, please forgive that brevity and I'm certainly thrilled to have the folks working.

Bob Sweeney is an Associate Professor of Computer and Information Sciences at University of South Alabama and he will be talking here in just a few minutes giving you a primer on models and talking about the literature review we did with the team.

Paul Lux is one of you, he's a rookie Supervisor of Elections here. He was just elected to his first full-term. Of course, many of you already know Paul, he's been doing this for a long, long time. He's just took the reins from Pat Hollarn a couple of months ago, a month or so ago. LisaAnn Benham is our Project Manager and she's much more than the Project Manager. She's been doing software for along time. And she rides herd on us and keeps us in

line. The document that you have, I must confess, is about 99% LisaAnn's effort put into transforming volumes and volumes and volumes of information into something that's readable that I've found, at least, to be, the ability to quantify all this information and put it in a form that you could understand. The job she did was phenomenal. So, for the form and the structure, she gets all the credit. If there are faults or errors in it, I take the responsibility for any of those things that might be in there.

But, what we're going to try to do is give you an overview of what we've done so far, what things look like to us, as we near the end of Phase 1 of this Voting System Risk Assessment. And let me emphasize up front that this is Phase 1, that the second Phase gets into the Risk Assessment part. We'll touch on that briefly in the presentation, but we hope that we get feedback from you. But let me just note of course that there are 100 folks in the room and we have about 120 minutes and about 150 pages and 60 slides, so we'd ask that most of the feedback be sent to us via e-mail. Now we'll certainly have time for question and answer. And again, I'll say up front, I'm going to be here until tomorrow, so I'll be happy to have a question and answer session either informally over a beverage of our choice or I would be happy to have a room found if somebody wanted to do that, and myself and the other members that will be here could answer questions and go over parts of this if

you wanted to. But that aside, let me move on forward, and these are the list of names in case you didn't get them as I went through them a minute ago.

Are the slides going to be available? I mean, on-line, will they be able to download these slides so they have the names? If anyone would like them, they is only one Yasinsac in Mobile, Alabama, and I'm easy to find, so if you'd like copies of the slides I can certainly get them to you.

The solicitation for this Voting System Risk Assessment was a process that began in April with the Request for Comments and there were several comments submitted, very good comments, sent in by teams from University of Cal, Berkeley, and lots of stuff came back to the EAC. They turned that around into a Request for Proposals that hit the street in August. That gave us, I think, like a three-week window to put together a proposal. We did. Our team really gelled very quickly and put together a strong proposal that fit within that solicitation. The award was made in mid-September. I believe we had a full 24-hours of spin up time allotted in that contract and we used every minute of it and kicked off into the project robustly at that point. The notion here is that we're supposed to produce a scientifically founded voting systems risk assessment. The beauty of doing this in an academic environment is that we have all the academic tools available to us. We have

members, even as we speak, who are writing academic papers on the concepts that we're evaluating – on the risk assessment methodologies. The merging of these fields is producing, produces, again, a tremendous volume of information and a substantial debt that is required to be able to come up with these answers. And so we've been able to make this happen reasonably quickly in this academic environment.

The team that we put together is founded at the University of South Alabama with myself and Bob, who are leading the Phase 1 effort of producing the model that we're briefing to you today. Harold Purdue and Jeff Landry are also faculty members at the University of South Alabama and they will be leading Phase 2, which is the actual risk assessment portion of that. Paul is on our team, along with Ion Sancho, who is obviously an elections official as well. Many of you know Ion. John Sebes, Jeremy Epstein and Richard Benham are consultants that have joined with us as core team members in this process to produce the intellectual bandwidth, if you will, the amount of different perspectives that we need to be able to capture both the model of the voting system and of the risks that are associated there. And LisaAnn Benham, as I've already mentioned, is our project manager and pivotal to the process. We also have a group of student investigators. This is another great thing about having this done in an academic

environment. This is the students that have been direct investigators in our project. Of course there are going to be many, many others that are going to see this material presented in classes, that are going to get briefings of it, and that are going to be involved as we move forward through this project. It's a tremendous opportunity for us. Our Advisory Board is rich with talent. We have one member of your group here. Beth Chapman, our Secretary of State in Alabama, is a member of our Advisory Board. We appreciate her help and support in this project. But, beyond that, you can see that we have many elections officials, we have vendors, we have academics, that are on the Board. Very opinionated folks, all. And that's what we need to get the issues out, to get them aired, and I'll let LisaAnn talk to you a bit about how we've merged these ideas. I'll just leave this list up here for you for a second so you can know how diverse the set of opinions in our Advisory Board actually is. We're very thrilled and honored to have this, this depth of talent helping us out.

Beyond the folks that are formally on our Advisory Board, we've received a substantial amount of help. Again, some of the names you may know. Merle is here, Merle moderated our roundtable discussion we had in Atlanta last month. Did an excellent job, produced literally hundreds and hundreds of notes for us to go back into the document and revise and commit and make

useful. And the other folks here have been tremendously helpful. Again, many of the names you may know, you may have seen in the documentation that we gathered, that Bob will brief to you some of these names, in fact all of these names are affiliated in some way with documentation essentially that we've reviewed as part of our literature survey, our literature search to give us the foundation so that we don't repeat the mistakes that have been made before primarily. We like to leverage the success that's out there in the literature and to be sure we don't go down paths that people have found to be not as useful. And so these names are other Project Advisers that have been involved in some part. And all of them fairly substantially so far. There are other folks, Don, Don Davis, right? Don Davis is our local elections official. He came over and conducted a two-hour session with us, with our students to brief about how elections are run in Mobile. And we've interacted through e-mail and through some of his staff members also have come over and worked us on this voting system model. So we're very happy to have had that interaction as well. At the EAC we're working with the standard suspects of Brian and Matt. And Carol Paquette and Tom Caddy have given us some very valuable feedback. We've integrated with them very well. You know, LisaAnn talks about the technology, but the communication with the EAC members has been phenomenal, at least from our

perspective. We've had electronic communications boards, we've exchanged tons of e-mails, they've seen our work product virtually minute to minute when we share our work product on our electronic bulletin board, the EAC members have access to that and, at least to date, they've said that that's been helpful to them. But I won't speak for them since they're here. If they weren't here, I would be happy to.

And that's it for me. I will be back to go through a little bit of the stuff at the end of the brief to talk about the final results, but I'll turn it over now to LisaAnn to brief the project management standpoint to you.

MS. BENHAM:

Good afternoon. I have some of the dry part of it. Just want to make sure that you all have a little perspective about where we came from and so you have a little bit of grounding when you look through the documentation.

We have a broadly based, interdisciplinary team as Alec showed you on his slides. And they are broadly based both in their backgrounds, you saw we have vendors, we have accessibility advocates, we have academics, we have business people, and they bring a wide variety of perspectives. And that's, you know, really critical to us because it is very important that, we want to get this right and we don't want to waste people's time later in the

process. We want to make sure that we've really thought through everything early on and have it all right. And we have a wide geography. This has been one of the challenges of project management. We have people in three of the four time zones. I keep trying to get Alec to recruit somebody from Mountain Time Zone so, if anybody here from Mountain Time Zone is looking for a job, you should see Alec. And this has presented some interesting challenges. Alec mentioned the, he said "electronic bulletin board," we call it the "team wiki." And you can think of that as "wikipedia." And what this allows us to do is to post real time information and exchange it. Everyone on the team has access to it, the EAC has access to it. And so we are able to overcome some of the challenges of working in different areas and not being geographically centered through this fantastic tool. The other thing that we've done is we've used web conferencing pretty extensively and I think you all might appreciate that the team actually finds it a treat when we talk Alec into letting us have a face-to-face all day meeting. We think that's just fantastic because we hardly ever get to see each other.

The rough outline of the project, and this is just to kind of give you an overview – the other members, Paul and Bob and Alec are going to give you some more of the details – but just kind of a high level view, is in Phase 1, and these were easy slides to create,

this is straight out of the Request for Proposals. This is what the EAC asked for the team to do. They wanted to create two sets of reference models. In Phase 2 we're going to analyze these models and we're going to identify the threats and perform risk assessments of the potential harms and potential mitigations. And then in Phase 3 we're going to recommend an acceptable impact level. Now one of the really important things about this is each one of these Phases builds on the prior Phase. And that's why, again, it's very important to get things right from the beginning because we're going to be using what we have in Phase 1, which is what you all are doing right now, is the foundation for Phase 2. The Reference Models that we've created are an Election Process Model, which is giving us the operational context in which voting systems are used. This is a Voting System Risk Assessment, but you can't assess the voting systems without understanding where they are used. And then the Voting System Models themselves. And what we were asked to do was to identify variations in threats and potential impacts across the range of generic voting technologies. One of the things that's important about this is there are, you know, 50 states and all the local jurisdictions, and things get implemented in many different ways and there are lots of variations. And so what we're looking at are the generic technologies, and what we're trying to do is identify those things

that are unique to the different technologies. The general technology types that were identified as being unique and having unique characteristics that needed to be identified and catalogues are all of the things that you guys know about – DREs, PCOS systems, central count systems, vote by mail, vote by phone, internet voting, and hand counted paper ballots. In Phase 2 we're going to take these systems and we're going to develop threat matrices that analyze the vulnerabilities for those systems. We'll identify the threats for them, describe potential attacks against them, and describe the degree of difficulty to execute these attacks. And then we're going to look at the risk assessments for them. We're going to identify the potential mitigations because even though these systems have vulnerabilities, there are process involved that help to mitigate those potential vulnerabilities. We're going to assess their ability to detect an attack and we're going to assess the ability to recover from an attack. And then we're going to assign and validate these threats and risks. In Phase 3 we're going to use the NIST SP 800-53 methodology to recommend an information assurance level for voting systems overall. We're going to fully document everything that we've done in a way that's accessible to you. One of the big charges for the team, from the EAC, is that the products that we develop have to be accessible. They wanted an academic study done, and they wanted the

benefits of the rigor that an academic study imposes, but in the end it has to be accessible. It has to be something that is useful. It's not meant to be something that, you know, gets published in a journal and then nobody ever looks at again. And, with that in mind, during Phase 3 we'll also recommend an update process.

Our status is that during the first 20 weeks we concluded the review of literature, we developed the process model and voting systems models that were distributed to you as part of your briefing packet, and we began conducting planning and coordination for Phase 2. Because the Phases so heavily rely on each other, it has been very important all along to keep the focus not only on where we are and what we need to do right now, but also how that's going to impact the next Phase, and also to have the Phase 2 team talking to us about what they need to make sure that the Phase 1 product provides the foundation that they need to effectively produce their documents.

We've used, our process is extensive collaboration and vetting. The web conferences, the Advisory Board has participated in five or six web conferences, somewhere between 15 and 20 hours of web conferences. They have been incredibly productive. We've tried to keep the groups smaller, to smaller sizes, maybe seven to 10, so sometimes we'll have two web conferences on the same topic. It's really allowed us to get a lot of fantastic feedback

and have discussion about it. We had the roundtable in Atlanta. That was about seven hours of going through the document that you're looking at, a prior version of it, literally almost line-by-line. From that we received about 130 specific comments that were incorporated, reviewed and incorporated just from that one particular meeting. And then we've had numerous direct contacts. With every one of the web conferences, and the roundtable, and other discussions we've had, people have just been fantastic about looking at the documentation and providing us with feedback about it, providing us with additional background material, and we go through those e-mails and incorporate them into our work.

The next part of the process is where we are right now. The EAC set it up so that there would be reviews both by the Standards Board, the Advisory Board, and also by NIST. And we're going to wash, rinse, repeat. We're going to, after we finish this Phase and we move on to Phase 2, we're going to be back and, hopefully, you guys won't have rotten tomatoes in your bags because you know we're coming back. But we'll be back again because you guys have important feedback and we're going to present to you and have the opportunity to receive that feedback.

We're going to talk, the rest of the presentation gets a little bit more into the details. Bob is going to talk to you a little bit about literature review and modeling.

DR. SWEENEY:

Good afternoon everyone. As the slide says, I'm Bob Sweeney, the Information Technology Program Coordinator and an Associate Professor at the University of South Alabama. Dr. Yasinsac introduced me earlier and said I'm going to talk a little bit about the work we did in Phase 1 of the project. There were three primary work products in Phase 1. The first thing we did was a literature review. I'm going to reveal all. The idea behind our literature review was to establish a foundation by searching the extant knowledge and published literature on voting systems and elections and to allow our investigative team to have that as a basis for moving into the next, completing the first Phases and moving into the next Phases. There were numerous investigative paths we followed to provide and perform a thorough search. The first was that our principal investigator, Dr. Yasinsac, and members of the investigative team, had already published in this area. And so we reviewed that material. We then followed the process of what's called "indirect leveraging" and looked at the bibliographies and reference lists in those articles and followed them to find other relevant research. We looked at the work done by Florida State University's SAICT laboratory which had done a review of voting system faults and produced a literature review for that. We looked at the publications from venues such as the workshops and election

systems in that venue and found numerous articles. We met with colleagues such as yourself, both personally and through mailing list communications, and collected articles from them to follow. And finally we looked at web sites -- government, state, local, Federal websites, privately managed web sites – and followed them to find numerous articles and include those as part of our literature review. The literature review though is ongoing. We have established a basis of about 168 articles in the literature reviews, in the documentation produced for the literature review, but it is still ongoing. If any of you in the audience have other articles or literature that you think we should review and consider including as part of project documentation, we'd love to hear from you. LisaAnn has given me permission to give out Dr. Yasinsac's GPS coordinates for his dock on the water, so you can visit him by land or by sea personally to deliver those.

As was discussed earlier, the documentation of our literature review was placed on a wiki, a website designed for collaborative research and documentation. We collected research in a number of different areas including government reports and standards documents, white papers and other privately produced reports on voting and elections systems, news articles from the popular press, and peer reviewed scholarly works from academia. Just to mention a few of those specific articles that are in our documentation. In the

government documents and reports area we have the review of the Help American Vote Act of 2002, the voting systems type definitions from the 2008 report from NIST, the 2003 report by the Federal Elections Commission entitled "Developing a User Center Voting System. In private reports and white papers, we have in our documentation, the Voting Technology Assessment Project produced by the Brennan Center for Justice entitled "The Machinery of Democracy: Voting System Security, Accessibility, Usability, and Cost. In the popular press or news articles, we have Doig and Tamman's article from the Herald-Tribune of Sarasota, Florida, from 2006 on "Analysis Points to Bad Ballot Design." And in the area of peer reviewed scholarly works, we have Frisina, et al.'s article from the 2006 *Election Law Journal*, Ballot Formats, Touchscreens, and Undervotes: A Study of the 2006 Midterm Elections in Florida. So we have a reasonably comprehensive list of, and documentation of, voting system literature. The focus again was to provide a foundation for our investigators so that we could move into the remaining phases of, parts of Phase 1 and into Phase 2. What we certainly didn't want to do was reinvent the wheel or make the mistakes that others had made. So that was certainly part of our process.

The literature review resulted in, was documented in a annotated bibliography that is again contained on our website, our

wiki. What we wanted to identify were a list of five to 10 keywords. We wanted the article to be summarized in about a 100 to 200 word brief description that would include why the article was considered important to our project, that was an important part of the summary. If there was an on-line version of the article available we put a link to it. And if there were additional sources, for example, found in the bibliography, through that indirect research method, then we would include that in the additional sources. Our, again, our bibliography, annotated bibliography was useful to the researchers. We were able to search via the keywords and other key terms added for each bibliographic entry and to make sure there was a solid foundation of research for each investigator before they would move forward into the other parts of Phase 1.

I want to talk a little about modeling. We, when we model we, by the very nature of model, don't capture everything. Modeling, as Dr. James Rumbaugh, one of the developers of the UML standards, said, modeling is the capturing of essential items that we want to document. We exclude, through the process of abstraction, things that are irrelevant or unimportant, and only capture those things that are important in modeling. We chose and used a type of modeling where we used a standardized graphical notation, a visual modeling approach. Visual modeling has many advantages, one of which is the ability to communicate. You can

communicate large amounts of information through a condensed diagram. You can also communicate exactly or precisely information from one person to another as long as they understand the notation. The ability to capture both the static and the dynamic parts of a system through visual modeling is one of the reasons we selected that approach. And finally, the ability to manage complexity. There's a famous article by George Miller entitled "The Magical Number Seven, Plus or Minus Two," many of you may have heard of, and it's on human cognition, the idea that humans can only process a certain amount of information at one time. The ability to decompose systems through visual modeling to make them simpler to comprehend was one of the reasons we selected this approach.

We chose numerous different model types, and I'll explain a little bit about where the model types we chose came from and then talk about, as we go through each one, why we selected that particular model. We used from the UML, or unified modeling language, the Domain Model, which is a subset of a type of class diagram. We used the State Transition Diagrams, which are also part of the UML, as are Activity Diagrams. From a structured analysis, we chose to use Data Flow Diagrams and from traditional systems analysis, Flow Charts. One of the important parts of our process was the creation also of a Glossary of Terms. And we

wanted to make sure that we had an understanding of every model component and also the pieces of our system, and had a precise definition for each of those. And that went into the development of the Glossary. One thing about the Glossary is that we were faced with the, with looking at specific, we were faced with the idea of looking at specific terms that had a general usage in the elections area such as "cast." "Cast," I think most people have an idea of what that means, but it can mean different things to different people. That is, there are multiple valid meanings of the word "cast." So in our Glossary we made very sure that we approached that and defined each particular part of what the word "cast" could mean as a specific, separate definition. For example, well, I'll talk about the example in a second.

The first type of model we chose to use is called a Domain Model. Again, it's a structural model of a system designed to give you an idea of the foundation or the elements that make up the structure. Similar to the way blueprints make up or define the structure of a building, a Domain Model defines the structure of a system in graphical form. The primary components of a domain model are concepts. They are the things, the ideas, the people that make up the system. And concepts are defined by their attributes, the properties of the concept, and their operations, what the concept can do, what are its activities. Similarly, an important part

of a Domain Model is identifying relationships between concepts. And there are three primary types of relationships. We identified "associations," which are significant connections between concepts; "aggregations," which identify a concept that is a whole and has as its pieces, parts; and "aggregations," which are a mechanism for inheriting attributes and operations from a concept, another concept. Similarly, we wanted to use a notation called "multiplicity" to identify how many, what the relationship was between any two concepts that were of importance to us. How many concepts on one side were related to a concept on the other.

To give you an example of how we had to decompose our system, when we first started this process, we developed one large, encompassing Domain Model. But that proved to be too much, again, visual information. So we created subsets of the overall Domain Model, and one of those subsets was "election." We chose to collect the concepts and define the relationships for things related to "elections." We then looked at also "people" as a separate subsection, "voting machines" and "ballots" and "precincts." So those were our, our sort of artificial subsets of the overall Domain Model. Again, we did that to incrementally build a Domain Model to more closely focus on each individual area. This particular Domain Model, you can see the concepts are identified by these square boxes. The name of the concept is in the top, their

attributes are in the middle, and if they have any identified operations, they would be in the bottom. The types of relationships, I mentioned associations, are just a solid line. An aggregation is identified by the diamond on one end of the line. And if there's an arrowhead, that is the generalization type relationship, again, to identify where a thing is a type of another thing. This is the, are the primary concepts related to elections. Again, where the concepts in this part connected to concepts in other parts of our Domain Model, we used this dividing line to show, for example, where political parties are related to illegal voters which are in our person Domain Model.

The next type of diagram we chose, again is a part of the UML. It's for particularly important concepts that have multiple states. And again, a state is when an object satisfies a condition, waits for an event to occur, or performs an action. When we had a complex object that had multiple states, we wanted to document that, and that's the purpose of the State Transition. We also will show transitions between those states. There is the State Transition diagram for a ballot. Again, a ballot is a very important part of our process, our documentation, and has multiple different states that we identified. I won't go through the states, or the ovals, rounded ovals, or rounded rectangles.

Thirdly, we used Activity Diagrams. An important part of documentation is showing the flow of control, the timing and sequence of activities, how they follow one another, which activities can be performed concurrently, which activities require a decision to be made before you can perform a particular activities. And what are those guard conditions that decide whether a particular path is followed or not. So that's the purpose of our Activity Diagram. As it says, we typically use Activity Diagrams in higher-level models, overview models of our system. And here's an example of an Activity Diagram for the ballot preparation process. And we can see one decision made at the bottom there, the diamond symbol that takes us back up if that guard condition is true.

Another important type of model that we wanted to document was Data Flow Diagrams. Data Flow Diagrams are useful for documenting where data flows. Not only do we want to document the flow of control in a system, but we also want to document where the data moves within the system. Where does it come from? That is, the sources outside the system. Where does it go to? The sinks of data outside the system. How is it stored and what processes transform it within the system?

I see, fooled me, didn't know where my other slide was. Okay, so these, the basic components of a Data Flow Diagram, like I said, are the processes that transform data, the movement of

data, what we call the data flow, the data stores that hold data within the system, and finally, where does data come from or go to outside the system – things we call external entities. Again, this is extremely important to document how data moves, just like it's important to show the flow of control through the system. You want to get a complete dynamic picture of how the system operates.

Here's an example of one of our Data Flow Diagrams. Again, the squares up at the top right indicates, in this case, a source of data coming into the system. The open-ended rectangle indicates a data store where data is stored for use in another process later on. And the rounded rectangles again are the processes. Lines between them are the data flows showing how data moves and the name of the data moving between one process and another.

We elected also to use another type of document to show the flow of control within elections and voting systems. Activity Diagrams and Flow Charts essentially perform the same task. Activity Diagrams are a newer type of diagram developed, is part of the UML specification I mentioned earlier. One thing that Flow Charts allow us to do is when we have a particularly complex diagram of a system we are trying to document, we can subset the diagram into smaller pieces through the use of Flow Charts whereas Activity Diagrams are really typically used a single

diagram that represents one part of the system. So the ability to have off-page connectors to connect part of our model to another part of the model somewhere else was a reason we used the Flow Charts in this case. Again, similar to the way that Activity Diagrams work, we document flows of control, that is, the timing and sequence of activities within a particular process. We can also document the activities that are performed, any decision points, inputs or outputs to the process, such as reports or storage can also be documented. Our typical example of a Flow Chart shows that this is a subset of the precinct closeout. Again, decisions are indicated by diamonds, with the output from the diamond a flow to one process or another depending on the decision, how the decision is analyzed.

I want to reemphasize that our Glossary that we produced, which I think I said had 142 entries in it currently, also encompasses these decision points and the processes within the models that we describe. For example, every one of those diamonds and every one of those squares up there which indicate decisions and processes is also defined as part of an entry in the Glossary so that we can look and find a specific description of those decisions or those processes to make sure we understand all the investigative team knows what those mean.

I think I'm going to introduce my next colleague, Paul Lux, now and let him take over.

MR. LUX:

Thank you Bob. I am Paul Lux. I'm a Supervisor of Elections from Okaloosa County, Florida. If you've heard about Okaloosa County in Florida recently, it's because we did an internet voting project against most of the odds that were set against us in 2008, and that was us. I have been working in elections. I got my feet wet in '99 with the Y2K, of course followed immediately by the fun that Florida in 2000.

If you saw the timeline that we had up earlier, the award for this happened in September 2008. And of course none of us were really that busy in September last year. And so I really didn't get a chance to join the project team and what they were doing until well after the November election was over obviously. And the first diagram that I saw, and Bob alluded to it, was that. Now I'm going to turn around here for a minute – if you can't read that, don't worry. When I saw that, I said, "Holy cow, what have I gotten myself into?" Alec made sure he had the hook good and set before he let me see this. One thing that I was able to do when I did finally see this, and you'll be grateful to know it's not in your book anywhere so don't look for it either, was when I stopped and I looked at the little pieces of it, I said, "Okay, you know, if there were a blow up of this, maybe

this would make more sense." Which they had already been working on it, again, I said I came in a little bit late to their process. Through their discussions with the EAC staff early in the project, what they came up with was the idea that we were going to follow the procedures and equipment that move the ballot through the electoral process. Now, so we're following the ballot, and that's important, and you're following it all the way through to its accumulation of the results and the verification of that. But how many, the Standards Board has what, one hundred and some odd members, 110 members? So that represents all 50 states and the territories. A little over 3,000 jurisdictions, well slightly more than 3,000 jurisdictions nationwide. And what we're trying to put together is a meld of all of these different things that everybody does. Election Center people here? I know we had a handful of them, a lot of familiar faces. One of the things you learn when you're going through Election Center stuff is, you know, what you call a poll judge, they call a poll worker, or an inspector, or a clerk, or a this or that. And a lot of the stuff doesn't translate well between. So, part of this problem with this scope was how do we keep all of this stuff going forward when everyone has a different terminology for everything? So part of that following the ballot was this Venn diagram. Any of us remember Venn diagrams from, grade school even? Unions, subsets, all that stuff? I actually had

to look it back up. I've got an 11-year old in algebra and I haven't even seen a Venn diagram from her for awhile. But, when you look at that it's nice to note that you can see the overall subset of a "voteable ballot" which is the outside circle, and then inside that is the set called "marked ballot." And then inside that "marked ballot," crossing over "marked, committed and accepted ballots," you see "provisional ballots," "spoiled ballots," "abandoned ballots," and then all the way in the middle of "accepted ballots" is another group of "duplicated ballots" and then there's two groups outside – "write-in ballots" and "duplicated ballots" again. And what this really details for you is the fact that even something that sounds as simple as we're just going to follow the ballot from the process from where it gets created to where the voter sticks it in the box and it gets counted and tabulated, is not an uncomplicated task.

So, continuing on with following the ballot, we talk about the process flow. And what you've got in your materials are the process flows and data diagrams that actually follow the ballot through its various phases. So we follow the ballot through from the process where preparation begins. We follow the process through where the voter is marking the ballot or indicating their choices if they're using a system where they don't physically mark a ballot. The commitment of that ballot is one of those things, probably my biggest challenge with this, and I find myself in the

perhaps unenviable position of having to bridge the gap between what we do and the world of academia because sometimes what they think happens isn't what really happens. And I spend a lot of time going over these diagrams, and in meetings and in conference calls, saying, "Well that's great, but this isn't actually how it happens and, you know, you need to break this piece down into even smaller pieces because that just isn't how it works." So the commitment of the ballot, which is different when you look at your diagrams, from the acceptance of the ballot. Even though we accept the ballots in the process flow, the way that acceptance occurs, is spelled out much more clearly. And then you go from there to the counting of the ballots. And that terminology that I mentioned earlier from jurisdiction to jurisdiction, also led to some problematic things because we all know we've got, okay, what's a ballot before you give it to a voter? It's a blank ballot, right? Got a whole bag of them. Hopefully they're accounted for. You have a whole bag of blank ballots, but you give it to the voter and the voter goes to the voting booth and the voter decides he doesn't want to vote it and it has to go into the tabulator unvoted. Is it a marked ballot, or isn't it a marked ballot? Well the voter touched it, the voter could have marked it. The voter, by not voting any races at all is indicating his choices to not vote. So, as a blank ballot now becomes a marked ballot, and so we had to put in a bunch of

terminology that's in that Glossary. The first time you see some of those definitions, you're going to go, "Oh, hold on a minute here. Who came up with this term?" One of my favorites, Pat Hollarn, my predecessor and mentor, mentioned at the roundtable in Atlanta, the idea of the ballot creation machine, and she went, "Ballot creation machine? What the sam hill is that? I've been in this business for 20 years, I've never heard of a ballot creation machine." It wasn't necessary ballot-on-demand technology. It was wherever that ballot is coming from. And so there's a lot of terminology that you're going to run across – voteable ballot, ballot creation machine. The definition of a legal voter, as opposed to an illegal voter, but a voter that's qualified or not qualified. There's just a lot of terminology that's really hard to get your head around, but when you see it in the diagrams and in the context, so when you see something in a diagram that doesn't quite gel with you, look it up in the Glossary and see what meaning we've attached to that because it might not mean what you think it means.

So we've gone through the ballots – preparation, marking, commitment, acceptance and counting. Now we're going on to the accumulation. It's one thing for our equipment to tabulate everything, to count it at a polling place, but now we have to accumulate those results to make our, to make our final results that get uploaded to the state. And so we're following them to the end

of that election life cycle. The audit work that none of us like. We have to cover what happens during a recount because that can be, as we've notice in recent elections, and you can laugh now but if you're not Florida, Ohio or Minnesota, you turn is coming. And more recently, people have started taking a much closer look at what we do as an audit procedure and audits are going to play much more important roles in the future, not less important roles.

So, what topics did we not include in this? When we had the roundtable discussion in Atlanta we were given a lot of information, a lot of exceptional information. Some of it made it into the diagrams, some of it didn't. So what didn't we include? And let me put a warning here. If you've never worked on a project where you have to keep your scope narrowly defined, there's something, and it was a somewhat new term to me, called "scope creep." It's not the guy skulking in the corner back there. Scope creep is what happens when you "well let's just add this little piece over here" and "if we're going to add that one, now we've got to add this" and "now we got to add this" and pretty soon you end up with that first diagram I showed you. So, keeping in mind that we were doing what we could to beware of scope creep, we've left out voter registration. We know we do voter registration, but as we're following that process of the ballot, yes we make a determination whether the voter is eligible or not, and that is in the model, so

ergo, voter registration is that unseen thing that's happening off to the side. We've also left candidate qualification out. Again, you can't have ballots without candidates and questions, so those candidates must come from somewhere, they don't crawl out from under rocks, well, okay, maybe they do, present company excluded. So, we've left off candidate qualification. System storage and maintenance – of course this is an incredibly integral part of making sure your election is successful. You have to maintain the equipment, you've got to store it somewhere, you can't just leave it laying around. And although this is very important, when you think about that lifecycle, and following the ballot, again, like Bob said, not everything gets into the model. Yes, it may still be important, but not important enough to fit into that model. Polling place setup – again, of course as we all know, elections happen magically. You get up in the morning and the polling places are opened and staffed with smiling volunteers and you vote and you leave. And so polling place setup, that magical event, is also not covered in our model. System deployment, getting your voting equipment out to the polling places, as well as system set up for everything from polling place to your accumulation, are all not part of the process we've modeled in Phase 1.

Now, some of you are already thinking you've left out some very important things, particularly some of you that have

looked at some of our models already. And I want to address some of that. Some of the things that you're looking at right now and saying, "Why aren't we talking about this? How come I don't see this in there?" are part of what we are terming controls or mitigations. LisaAnn talked about in Phase 2 we are going to look at those mitigations. Those controls are there to reduce or eliminate risks to the process that a ballot goes through from start to finish. And what are some of those? Well, logic and accuracy testing certainly is part of that. And in most cases, mandatory. But if you think about it, could you do the process without the logic and accuracy test? It wouldn't be prudent certainly, but the ballot process, that's a control that you put in place to ensure that the ballot preparation has been done correctly. And so, for that reason, you're not going to see that in here because these things are coming in Phase 2 as part of the control process. Ballot accounting, also very important. Some jurisdictions do it, some don't. For people who start doing it, you'll wonder why you weren't doing it before. And random audits of course, as I already mentioned, very important things that are going to become much more important in the future. And we don't use the term "controls" here in the scientific sense. When you're doing the science experiment, and again, father of an 11-year old, I've been doing a lot of science experiments recently, and that control group of

course is that pristine thing over there that has, you know, that's pure and clean, and since we could all raise our hands who's run 100% percent elections, thought so. And that's why, in this sense, controls are not meant as the perfect election. Controls are just those things that reduce or eliminate those risks. Also, other things that could be included on this list -- your physical security procedures, seals, logs, all of those things that are important to making sure the election is safe.

Speaking of those controls though, where did we get some of the controls that you're going to see from us in Phase 2? A lot of them have come from best practices. The EAC has put out a lot of guides on the way to do certain things, and to help people along. We talked to a lot of elections officials. You saw the list of people earlier, all of the elections officials that have been involved in the process all along. We've been giving them constant input. Like I said, when I first saw some of the models, I was like, h'mm, you know that's not really how that happens, you've got to draw that arrow and make it go up over here and back around over there. As well as that literature review that Bob talked about, going through some of those things and looking at the way certain states have evolved their laws to include fixing things. I think it was my friend Paul who's sitting in the back there, who was talking last night about if you want to see what's gone wrong with an election, take a

good look at the state's changes in their election law and that will lead you back to whatever happened in somebody's election at some point, which is why those laws ended up there in the first place. To that end, this is where we need your help. And we're encouraging you all to send us your favorite, or best practice, controls that you think are important and think need to be part of what we're considering in Phase 2 because we need that kind of input. Whether you want to call me, or contact me, e-mail to Alec, if you've got his GPS coordinates you can drop it by his dock, he's there most evenings. It's easy to find, it's the one with all the Mardi Gras beads on it. But do consider, after you've looked at all of this, getting back to us and saying okay I didn't see this and I want to make sure you're going to include it as part of those mitigations in Phase 2.

And I think it's time for Dr. Yasinsac to return. And thank you all very much.

DR. YASINSAC:

Okay, we're at about an hour. And that, you know, most of you right after lunch, if everybody's starting to sleep, if you want to stand up and stretch, now might be a good time to take a 30 second stretch break. Yes, no? Stretch break for about 30 second or two minutes here so that you don't go to sleep, and then we'll finish up. And then have questions and answers.

[There was a short break]

DR. YASINSAC:

You do a search of the term "error" and they define "error rate" in VVSG, but they never define what an error is. And I'll tell you right now that we don't do a great job of defining it here. But what we have done a lot, is debate about what it means for there to be an error and what the impact of that error is. The difference between a VoteError and an AccumulationError, for example, those are two different, two fundamentally different types of changes that can occur. And then what does it mean when you have contest error? And it was pointed out, in fact Ion pointed out in our roundtable, that the selection of the term "contest" for the race or the different ballot issue or whatever, was, there's nothing perfect because everybody uses a different term. "Contest" has another connotation of being a disputed election or a disputed race or a disputed ballot issue. We use "contest" in the context of being the issue on the ballot, it's a race, it's a ballot issue, it's an office that's being decided in the election. But these are all different types of error that can occur. And so we defined a VoteError as all errors that affect one vote in one contest. We could probably have worked harder at trying to get into the details of what an error, of what a VoteError is. I think most of you folks know what those things are. If a ballot is not scanned, if the scanner doesn't record a

mark on a ballot, that's a VoteError. If a ballot is lost, that creates a VoteError in multiple contests. You folks know what a single VoteError consists of for the most part. It may be that we'll need to refine it some, but we think that that's probably good enough for the purposes of being able to talk about the risk. And remember, everything that we've done up to now, the literature review, the modeling that we've done, the Glossary, all these definitions, is all focused on providing us a firm foundation to be able to assess the risks of voting systems. That's really the focus of what we're doing. It's possible that some of these artifacts may be distributed, but that will be up to the EAC when we're done on how much they want to be able to keep these artifacts that are focused on risk assessment as, for broader use. But our goal is to get these things ready to help us do this Phase 2 part, which is the focus of our project.

AccumulationError, of course, is things that may happen in accumulation. Where's Minnesota? Is there somebody here that would raise their hand at this point? I don't know, you don't have to if you don't want to. You know about AccumulationError. They occurred on the first day of the race. They had simply, had recorded the counts from the different places and there were errors in the way these things were recorded, or the math errors, I don't really actually know the details, you probably do. But they occur, AccumulationErrors occur in elections, and that's fundamentally

different than a VoteError, something that happens with one ballot or even with a set of ballots that may disappear. Mathematical error, recording error, whatever they happen to be.

And so we know these type things have different processes. So we had to define this in order to be able to talk about risks to systems. Now, here's a concept that you certainly haven't heard before, or my guess is you haven't heard this before. We, and in fact, let me give a test here. Has anybody in here ever conducted a perfect election? Raise your hand. Okay, I've got, are you helping me count Gineen? Are you helping me count? Okay, how many people in here have never conducted a perfect election? Okay. All right, I counted 17. How many did you count? We had accumulation error there at the end. The perfect, or the ideal count, we could probably have gotten in this room. We could have done, everybody stand up, and have three people count, and we could have come up with what is the actual, absolute, what we would call the ideal vote count. In real elections we can't really do that. We don't know what the real count is. We know that there are errors out there that we can't detect in any nontrivial election, but there is this thing that we all want to have. Even though, if you're not one of the four that have conducted a perfect election, you want to be. You want to be able to do that. And so to be able to characterize the amount of error that occurs in elections, and we debated this at

length, we came up with this concept that's called an IdealContestTotal. If every vote were counted as, captured as cast, counted as captured, then we would have that IdealContestTotal. And so that gives us the ability to talk about the impact in aggregate of all of the errors in a contest. We call those ContestErrors, okay. So the Ideal, its the accurate count, or accumulation of each voter's intent. And of course, that voter intent phrase is another flash point which we've had to really be careful. Any time you're doing these things, you look for the flash points and you want to not get to a place where you, you get sidelined by the things in the past that have created problems in these terms. And so we tried to come up with terms that may be new to you, but I think that you all understand. We all do understand that in most cases, maybe even not all cases you can, but in most cases there is an ideal count out there. And if you had enough information, in most cases, because you get auditors and you know how to do this stuff, you could find it. It's out there. We rarely ever get to it, but we do believe it's out there. And the IdealContestTotal is distinguished from the ContestVoteTotal, the ContestVoteTotal is the count of the votes in the contest, the IdeaContestTotal is the accumulation of the votes that is perfect without error. Okay? So is everybody with me here? This is a fundamentally different concept than most of the people that we've talked about, not just elections officials, but across the

board. The vendors were very uncomfortable with some of these concepts. And many of the academics, now the academics, we have in academic theory and computer science theory, we've dealt with this notion of ideal systems to be able to identify approximations of ideal systems in mathematics. So the computer scientists had a little bit better understanding. And this is where, I understand that, you know, in theory and in practice, the differences in theory, theory and practice are the same, but in practice they are different. Isn't that right? Isn't that the way it goes? In this case, we've allowed the theory to take us to what is really a reasonably practical definition of error and error rates. And you all know this – this is just the disclaimer – the ideal results and perfect elections just generally don't occur unless it's, it's some type of a trivial count like we could have done in here. We could have come up with an ideal, with a precise count of votes. It's very unlikely that that can be done in any non-trivial case.

So the ContestError in the micro is the accumulation of VoteErrors and AccumulationErrors in that contest. But in the macro, when you have that all accumulated, the important issue here is that you don't have the correct totals. That the totals don't match what the ideal is. So in the micro, you're looking at the accumulation, the count, the number of errors. In the macro, you're looking at the end result on the totals. And then what that leads us

to then is the ability to talk about a Contest Fault, which means when we have uncorrectable ContestError that impacts, it is different from the contest total, the ideal result is different from the contest total, so that we can't determine if it's correct. This was again very heavily debated. We spent a lot of time talking about how to characterize the notion of the accumulation of the total impact of error on election results. So the ContestDecision is different from the IdealDecision. The IdealDecision is one that is based on the IdealContestTotals. If you have the IdealContestTotals as error free, the IdealDecision is based on the error free totals. If the actual ContestVoteTotals produce a decision that is different than the IdealContestDecision, then you have a Contest Fault. That's the term that we've used. What elections officials might say that is, is that the error has changed the outcome. We didn't, we weren't really able to work with that on a model basis because we didn't know what changed it from what. If error that you detect in the original count changes the outcome, does it change it to the correct outcome or does it change it to an outcome that is wrong because there is other undetected error that would have given you the ideal result? Yes, no, people following me? In any election, there's residual error. No matter how many times you audit it, no matter how many times you check it, there is residual error. So, the ideal result captures the notions that that's

what we want to shoot for and so that's how we're trying to assess risk of error in these voting systems. And I don't want to go past this slide until I get some nods here that everybody has a reasonable understanding of what we've got here. I don't see any, yes, please.

MR. DEZMELYK:

Robert Dezmelyk, state of New Hampshire, local official and software engineer. And I guess the question that immediately comes to mind is, it's easy to say practically that you're going to have residual error and you're going to have uncertainty because people are executing the process. But, I don't see that that's true theoretically. And that's an important distinction for this kind of study.

DR. YASINSAC:

Would you mind rephrasing that question?

MR. DEZMELYK:

Okay. From what I understand of what you're saying, and you're looking for people nodding in agreement, I guess my question is, "Are you taking the position that, theoretically, there's always residual error?"

DR. YASINSAC:

Yes.

MR. DEZMELYK:

Okay.

DR. YASINSAC:

Yes. And the notion here is that we want to capture that to be able to decide, in some sense it's what you do, when the, possibly when the system, when you don't have the capability of determining if the contest has met the ideal result. Which is the second part of our definition. The second part of the definition says the contest, if we know that the contest decision is different than the ideal result, then we know we have a Contest Fault. If we can't tell whether what we have decided is close enough to the ideal that we have the IdealDecision, then we also have a Contest Fault. And as you know, these are the most difficult elections. They happened in 2000, it's happening now, and it's just impossible to tell when things get so close, who really got the most votes. And so, being able to capture that in theory and in a definition that people can understand in practice, we think is critical in being able to move forward with the risk assessment. Does that help?

MR. LINDBACK:

That looks to me like a terrific decision for people who lose a very close election to use in court.

DR. YASINSAC:

We've addressed this issue. It's absolute...

MR. LINDBACK:

If your assumption is there's a fault when you can't tell, then, then the legal award, if this is your decision, a Judge will go with the loser every time because there's a fault by definition.

DR. YASINSAC:

And we went around this many times because, your point is exactly right if what your definition of fault is, is that a fault caused a bad decision. That's not what we're saying. What we're saying is the fault is that the system is not precise enough to be able to tell. That's the fault. So, but, we would like to have a term that captured that notion better than the term "fault." It's an election unsuccessful, because we have a definition of successful, but we didn't like that either. I mean we went around this barrel a bunch of times trying to find a very precise term. Go ahead please.

MR. LINDBACK:

Well, I think it's interesting, it's an interesting thing you're grappling with, but I think what it results in, if the Federal government decides that this is the right way to define this, is that we're going to be doing a lot of elections over in America that are very close. Washington would have had to do its governor's race over, Minnesota would be doing its senate race over and we would have been doing a Presidential race over in 2000.

DR. YASINSAC:

Well, that may be what your interpretation is, but what we're intending to do with the model is be able to point to the fact that there needs to be a resolution process in those situations maybe, other than do over. There are many ways that you can decide races other than do overs or than re-votes. And it may well be, I mean, yes sir, go ahead Lowell.

MR. FINLEY:

I just wanted to say that as someone who has practiced as an election attorney and tried to reverse the outcome of an election, and this of course was under California law, but I believe that it's pretty uniform Nationwide under state laws, that if you're contesting the results of an election, there's a heavy presumption in favor of the official results and a heavy burden on the candidate or party that's challenging the result to prove that it's wrong, not just that it might be wrong. So I actually think you are making an assumption that isn't actually supported by current legal practice or doctrine.

DR. YASINSAC:

Again, his point is that it would give foundation and documentation in Federal literature of this term of an election fault. But your contention is that even in spite of that Federal paperwork that it might be in, that the burden would still remain with the disputed, the disputer.

MR. FINLEY:

Yes. Even if everything came out in the worst possible way, from the hypothetical, that would not be enough to meet the burden of proof under current legal standards for a state judge or a Federal judge applying state law to reverse the outcome of an election.

They would throw you out.

DR. YASINSAC:

Okay, okay. Again, I don't want to cut off this conversation. If you have more feedback on that, please give it to us because, and that's one of the reasons I have this slide here. This is one of the hardest issues we dealt with. Again, I think it's very pivotal. If you want to be able to talk about risk of voting systems, you've got to be able to figure out what an error is and what it means for a contest result to be correctly decided or incorrectly decided, accurately decided or inaccurately decided. And these are the words that we picked. If there are better words, boy we would love to hear them. That is something we, because we debated them, and this is, I think, the best that we've been able to come up with. Okay.

The components of a risk assessment that we will be in in Phase 2 will begin with threat trees. We will look at threats, and then those threats will be decomposed into threat trees. And then we will look at the likelihood that occurs on these, on these threat trees. Now, this is a very simple, straightforward process. You

look at the threats, you figure out what steps would be required to execute or exploit those vulnerabilities to make those threats happen in an election. And then you evaluate the likelihood. Seems straightforward, very simple, anybody can do this. Well, unfortunately, it is just not that easy. There are lots and lots of challenges to probabilistic voting system risk assessment. The first is one is this is a Byzantine model, it's a malicious model. It's not, the distribution in scientific, in scientific mathematical analysis that are probabilistic and statistical, the best results that you have are uniform distributions or at least predictable mathematical distributions, Poisson or exponential, whatever the distribution is. The Byzantine attacks don't follow any model like that. Malicious attacks don't follow any model like that. And I don't, again, mean to use inflammatory examples here, but who could have predicted mathematically 9/11? It had never happened before. But it happened. Now that it's happened once, do we have anymore information about how to mathematically predict if it will happen again? Not really. So, we're limited, that creates significant challenges to us to do probability estimation because the model is not probabilistic. And I get this argument all the time – well you just devise these probabilities. Well, you just don't know when somebody's going to be motivated to attack a voting system. You just don't know. There's no probability distribution out there that we

can grasp onto to pull it in. So we're using, our notion is to use the experience of elections officials and for you to be able to predict, and the EAC and state elections officials and local elections officials, we'll use your knowledge and your background and to contact colleagues and get their feedback, to exercise the system to be able to produce what you believe are the threats and the risks in the environment that you will exercise those voting systems. As opposed to going with a strictly, a probability distribution. And then we'll use that information in our model. At least that's the concept of where we are now. But, the Byzantine model is a very difficult model, malicious attacks are very hard.

You folks know better than anybody how many variables there are in an election, how many things can change – the size of the precincts, the number of precincts involved. I mean Miami Dade County has, what, 770, is that, does anybody in here know? Seven hundred and something precincts in Miami Dade County. It's just phenomenal what the difference that they would feel between states like South Alabama where I am or in Montana where there's very distinct, different threats. The number of assumptions gets very, very large about the way that these things differ. And so with every one of these assumptions and every one of these parameters in every one of these, then you have variability, your ability to predict accurately, the impact of those

parameters is greater and so it becomes a harder thing to do probabilistically. So we recognize that we've got to deal with lots and lots of different assumptions and we're trying to come up with a way that we believe will capture that, like you to capture those, to guide you, to guide elections officials to those different types of assumptions that have to be made and to come up with reasonable approximations as they go.

It's also very difficult to deal with highly unlikely events. And I've already alluded to that. When, what is the likelihood that someone will steal a box of ballots? Well, it's pretty unlikely. Why would they want to? Who would have access? Who would have motivation to do it? These things, when you're trying to predict highly unlikely events, and one of my colleagues gave me this example when he was talking about ways of being able to predict this – he said what's the likelihood that when you walk out of the building today, that a bird dropping will land on your shoulder? That's kind of an unsavory example, but it illustrates very perfectly. The probability is not zero. There are birds, and it happens. But is there a way, it is so unlikely, that coming up with the ability to say how, you know, what are the chances that it will happen to someone in this room? It's hard to do. And so we recognize that estimating the likelihood of unlikely events is very difficult to do.

So, I think that this is, the notion here with assumptions, and this is actually an academic observation, that when you have very low likelihood of events occurring, that the error in your assumptions, the error in your assumptions dominates the likelihood of the events. So it is very, very difficult to get accurate assumptions probabilistically because the error in the number of assumptions you have, the error that is there, and your ability to accurately predict these inputs and outputs and to estimate them, dominates the probability that you would have in the actual likelihood of an event. So it's very challenging to do.

Okay, and that really concludes the discussion about where we are. Because we are just starting Phase 2. As I mentioned, Harold and Jeff back in Mobile have been working on the concepts, but we really haven't fielded these to the team in general because we've been preparing for this. We consider it a milestone brief. We appreciate your attention through the brief and at this point I think we have about a half an hour left and the team members are here to address any of the issues that you have, to answer questions about what is in your booklets, or what we presented so far. I probably won't have a whole lot to say about what we will do in the future beyond what I've said because the team decisions will be made by the team and we really haven't done that yet beyond what I've said. But I'll be happy to answer questions and the team will be

happy to answer questions about what we've done so far, what you have and what you see.

Please.

MS. DEBEAUVOIR:

Dana DeBeauvoir from Austin, Texas. All right, given your current bit of a dilemma about how are you going to assign a probability to extremely, unlikely events, number one. And then, number two, the Phase 2 portions of it where you're going to try to come up with recommendations for mitigations and controls and testing, whatever. How are you going to reconcile the two so that Phase 2 comes out with something realistic that we can plan for and say, okay well if you want to avoid this particular risk, then do this particular thing. And if you want this other different risk, then you want to do something else entirely different. How are we going to see you pull that together?

DR. YASINSAC:

That's a wonderful question. And if I had the answer, the final answer to that, we would be done. In all seriousness, what I've tried to do for you today is to paint the picture of where we are - - that we are exactly at that point where we are asking that question. And I believe that I had on one of the slides a technique called pervasion analysis. We have a Monte Carlo simulation, you mathematicians, you know that simulations do lots of good things

and can be very helpful. And we're going to try to come up with a process that is simple enough to be useful to elections officials, but also precise enough to be accurate and useful. So it's got to be able to be used, but it's also got to give some valuable feedback. If the numbers are arbitrary, then why would we put you through this? So we, we believe we have a lock on a direction to go and, based on the research we've done so far, we're confident we can come up with an approach in the timeline that we've been given to meet the needs of the contract. And, as our colleague mentioned to me last night, we're going to abide by the terms of the contract and produce that accurate result.

[Inaudible question from audience]

DR. YASINSAC:

I'll turn that to LisaAnn. Actually, let me defer that to Matt. We've been adjusting the deadlines here just a bit in order to make this meeting. This meeting, when we made our proposal, was scheduled earlier and so we've delayed things. I actually don't know precisely if we even know when our, the precise, it's a 10-month contract. And the 3rd phase is the reformulation and documentation, so we should, I would say that the summer is certainly a timeframe that is within the scope of discussing as being our next, our next set of deadlines. Thank you. Yes sir?

MR. WEIR:

Steve Weir from California. Paul mentioned the controls that you were going to look at, and even mentioned things like the random audits. Are you going to quantify random audit numbers in this? I mean we do a one-percent, is that significant? Is five-percent? If a race is really close, does that escalate?

MR. LUX:

And that's going to be part of the real challenge of Phase 2 and part of Phase 3. I mean, in Florida right now, we randomly select one contest and then audit two-percent of the precincts in my particular jurisdiction. If it's not a, if it doesn't cover all 52 of my precincts, I've only got to audit one precinct. Is that a meaningful audit? Isn't it a meaningful audit? I can tell you my canvassing board judge thinks it's not a meaningful audit. He thinks it's a huge waste of time. But, how robust do the audits need to be before they become meaningful? And I'm not sure there's a mathematical quantification for saying this audit's meaningful and then this one, because it's off by one percentage point, is not meaningful. Now if you're in a recount situation where you're already looking at 100-percent of the ballots to go through that sort of a recount, that, you know, even exceeds an audit, to a degree. So there's really a lot of gray area there when it comes to that. And the idea of random audits is even being stretched a little further by the idea that not only should you have random audits, but to make sure someone

isn't fixing the pool of people who are going to be conducting the audits, you should randomly select the auditors who are going to be doing it too. And get the elections officials out of it. So then there's a lot of different criteria that have the ability to really impact how that's going to get quantified in Phase 2. Which probably doesn't answer your question at all.

MS. BENHAM:

Let me see if I can take a bit of a stab at it too. Another important thing to keep in mind is we're not going to produce something that is a number. We're not going to give you a number that says if you have a central count scan, this is your number. What we're going to give you is a tool. Because in every jurisdiction you do have different parameters. You have different audit requirements. You have different controls and mitigations that you use for ballot accounting and all of those different controls that Paul talked about. And so what we're going to give you is something that allows you to sort of tweak those individual things and assess and evaluate the systems based on your operating parameters. So, one of the things that you would be able to do with this is say, well if I kept all of my current equipment and I kept all of my current procedures, but I increase my audit percentage, let's see what that does. What does that give me in terms of another value to the security of my elections, voting system? And so you'll

be able to do, one of the goals, overriding goals, was for you to be able to do that evaluation, to be able to do a cost-benefit analysis of some of your different options – where I could purchase new equipment or I could implement these controls, I could have these new laws passed. And so, it's sort of to give you the opportunity to tweak those things yourself in order to be able to really assess your situation and what you might change.

MR. WEIR:

Since this is public, I'm hoping that it's not just an academic issue, that the member of my public can look at this document and make the same assessment so that I'm not constantly chasing a moving target. Because today I am constantly chasing a moving target. It's like infinite regression. If we go and explain why that thing couldn't happen, oh but perhaps this thing could have happened. And, we're constantly on the defensive and up against the next election deadline.

MS. BENHAM:

And one of the charges the EAC has give us is that it has to be accessible. It has to be accessible to you, it has to be accessible to the vendors, it has to be accessible to the elections integrity community, and it has to be accessible to the general public. We have to produce something that's not academic that

looks nice in a peer review journal and sits on a shelf and nobody ever uses it.

MR. LUX:

And one of the things that has always, from the election side, has always been a real chore, is working through those probabilities, or improbabilities. In my jurisdiction we modern all of our results in from the precinct. Now I come from an, and I'm going to use an oxy-moron here, army intelligence background. I'm not going to stand here and tell you that no one can intercept my fax transmission from my polling place, grab that result, decrypt it, change it, re-encrypt it, send it down the line before my server time is out, and upload bogus results. I'm not going to say that can't happen, because it is possible. But the probability of that, from my COMSEC background, is incredibly, incredibly slim. And there's just so many factors that would have to be involved that it's virtually impossible, but I'm not going to ever use the word that it's impossible. And so, there's a lot of things, like LisaAnn said, we're going to give you that tool that you can tweak and say, if these are my processes then this is my risk factor and I can mitigate that by tweaking this a little or tweaking this a little to maybe level that off and make it more secure.

Mr. Harrison?

MR. HARRISON:

Yes, Allen Harrison, Arlington. I've heard a lot for along time now about doing audits. But can you give us a summary of what is an audit that you do. What do you do? What do you check?

DR. YASINSAC:

Let me just jump in and say that's another, a whole other set of questions. We have a bit of information in our model about auditing, but we haven't gone into detail on that because it's a control issue that we'll delve into in Phase 2. So, again, it would be a little preliminary for us to try and jump into what's included in an audit. We could be here all day just talking about that issue.

MR. HARRISON:

You hear that this, you know, helps you when you do this, but when you double check things as you go along, your example if I may, of somebody intercepting your fax. Ours our phoned in. Maybe someone could phone it in wrong. But those are just the unofficial, when we get the final ones, those are what we look at, what's been written by the, and if there's any question we bring in the election people from the precinct. So, you know, what would I then audit with those results when I've already done what I think is, I can't think of anything that's going to change it.

DR. YASINSAC:

To answer again, Mr. Weir, you folks in California actually did an audit survey that gave some mathematical parameters, if

you wanted to have, and based on how close an election you want to be able to detect. What's the maximum difference in the election to determine the percentage that you had to have. And if you wanted to get it down to into the six sigma range, you'd have to do a full recount. That was actually a result of a study that you folks did there in California. And Lowell, you had a point.

MR. FINLEY:

Well, yeah, I just wanted to clarify, going back to Steve Weir's original question and comment about this, audit isn't exactly the right term for what California does, particularly that they're a statutory one-percent manual tally. Because that's what it is. It's a random selection of precincts and then a manual tally of the ballots or the VVPATs in a comparison against the electronic results. So, that's quite a different concept than an audit that looks at processes and matches one set of records against another -- what you would think of more in the nature of a bank audit. And so it's an important terminology distinction to make as you go into this.

DR. YASINSAC:

I don't know who was first.

MR. LINDBACK:

Some years ago I got asked by the Brennan Center to...

CHAIR BARTHOLOMEW:

Excuse me. Could I get you to identify yourself.

MR. LINDBACK:

John Lindback. Sorry. John Lindback, Oregon. Some years ago I got asked by the Brennan Center to participate in an exercise, I think for that study that you referenced earlier. And they wanted me to help them develop an attack tree, what they called an attack tree, where I would lay out all the vulnerabilities of a vote by mail election in Oregon. And I said, okay so you're going to make this a public document? Yes. I said why would I lay out a road map for people to cause a problem who might be motivated to do so? So I guess one of my questions is are you folks developing attack trees like that? Are they going to be part of your study? Are they going to be made public? Could they conceivably be used by people who may want to cause a problem for elections if they are made public in a study like this?

DR. YASINSAC:

Right, that's an excellent question. And we certainly have to balance the needs of society for transparency for folks to know what we're doing so the citizenry can understand it, but also to protect the integrity of elections. We know that this is an issue that we have to be cautious of, that we would do everything in our power to not expose elections to any greater risk than they face presently. So, that certainly is an issue that we're going to have to face and adjust as we go into Phase 2. And I appreciate you

raising that to a very high level of consciousness. I think, again among academics the notion is that it's not really hard to devise these attack trees. That coming up with them is probably not something that necessarily should be private because people can generally come up with these things. But we certainly recognize that that's just not, not always true and we have to be cautious not to present real risks to elections by publicizing these things. And we'll need help from your community to tell us when it needs to be transparent and when it needs to be protected because that's something that we, we certainly don't want to have to make that decision on our own. Yes ma'am.

MS. MCGEEHAN:

Ann McGeehan, state of Texas. Obviously this is a huge topic and you all are doing a great job trying to wrestle it into, you know, charts and all that. But my concern is that I think the, as I understand, the focus of the study was supposed to help the EAC evaluate the next iteration of standards. You know, there is a lot of criticism from some folks, well there's way too much concern about security, we need to evaluate this in a real world scenario. And my concern is that the EAC, at least the way these Phases are identified right now, I mean are you going to, at any point are you going to cross reference your threat analysis against the proposed next iteration of standards? So that we, the Standards Board,

Advisory Board, will have a way to kind of evaluate what do we really need, what can we decide, well because this is a low risk we might not need to have this in the next iteration. That seems to me a missing link at this point. I know we're just in Phase 1.

MS. BENHAM:

And that goes back to the face that what we're giving you is not an answer, it's not a number. It's a tool. And that will enable you to use that tool to do exactly what you're saying. And it's going to be something that, that is available to you. So, yes, it's exactly driving to provide that, a tool that you'll be able to use as you evaluate those standards.

MS. MCGEEHAN:

Well, would it be, and it's up to the EAC of course, but when you identify certain risks, if you could say, okay that corresponds to this requirement in the next iteration of standards, for instance. Or, you know, this is really difficult material, especially for non-technical people to understand.

MS. BENHAM:

And lucky for us, Matt is going to job up here and help us out.

MR. MASTERSON:

Ann, exactly what you're describing is what drove us to do this. And so, yes, I mean I envision, you know, sitting at my desk

looking at the next iteration using this tool to do exactly what you're saying and to make those connections. I think it'll be very, you know, the goal of the tool and the way that it was proposed to us, will be very easy to make those connections. Okay, there's a requirement for a hardware crypto module. What's that providing to us? Let's go to the risk assessment and see what we're mitigating with that module and the costs implied with a requirement like that. And so the goal is to have a usable tool like that to do just what you're speaking about. To be able to make those assessments and come to you all and you all, you know, we can present and say here's what's in there, here's the assessments we've done and the costs, and be able to conduct a cost-benefit analysis of that sort with this tool. That's exactly what, one of the goals with this.

DR. YASINSAC:

Just to clarify though. We were never tasked, as this team, with coming up with a tool to correlate anything with the VVSG per se. It's a tool to evaluate the risks to voting systems. And then the elections officials will take that system, the tool, and use it as they move forward in evaluating the VVSG next generation and the next iteration, next generation, like in Star Trek. And at state and local levels for making even more local decisions on voting systems. So it's a voting system risk assessment as opposed to being a VVSG component. Matt said it was driven by the need to have a risk

assessment available to make decisions, the EAC to make decisions about that. But, in some sense it is independent from of that.

MR. RAGSDALE:

Russ Ragsdale, local, Colorado. One of the elements that you discussed and that you made a determination not to include in the scope was pre-election set-up. And I'm assuming within that pre-election set-up is the logic and accuracy testing, internal testing, ballot print testing, software, hardware, etc. That strikes me as having a significant and direct impact on the risk, level of risk on Election Day in the travel of a ballot through the process. Can you share some of your thoughts and discussion on why that was determined best left out of the scope?

MR. LUX:

Again, those are controls that ensure that your ballot, I mean, if you lay your ballot out in your election management system, you send the ballot off to your printer, the ballots come back, you put them in bags, you send them to the precinct, the voters vote on them, and that first ballot goes through an election day and the machine spits it out and it says this ballot doesn't belong here, there's something wrong with it. Everything else you just talked about Russ is exactly why you do those things as part of that set up, but those are controls that you've put in place to ensure

that the ballot preparation is done correctly, to ensure that, you do the ballot accounting to make sure that the right ballots go to the right precinct. So these are all the controls that help mitigate the risks of what happens if your ballot isn't laid out correctly. And that's exactly why we've included them, they're going to be part of, play a bigger role in Phase 2 and don't need to necessarily be outlined in Phase 1.

MS. BENHAM:

Just to clarify, there's a difference between something being "left out of the model" and something being "left out of the project." Just because it's not included in the model, doesn't mean that we're not considering it. It's just not being modeled and documented as part of that because it's a control that belongs in Phase 2. So it's included, it's just included later as a control mechanism in Phase 2.

DR. YASINSAC:

And again, just to emphasize. When we say "doesn't belong," that's our opinion as we devised this project in the form of the EAC and part of the taskings that we've asked you to do in your, in the document here, is to give us your feedback on that, the scope that we've laid out of what's part of the voting system and are these things actually better represented maybe as part of the voting system rather than as controls. We're pretty confident that we've

got it right, but certainly it's not too late to get your feedback and we have asked for that as part of this process today. Yes sir?

MR. LINDBACK:

Are your definitions, I see a long Glossary here, are they consistent with the definitions of the EAC and the VVSG?

DR. YASINSAC:

It depends on which EAC and VVSG you're talking about. We've washed the definitions that we have. I mean obviously the term "voteable ballot" is not to be found in the VVSG. And many of the terms and the phrases that we use are not present in any document that you will find anywhere. Where we've had overlap, we've attempted to merge and correlate or provide the differences between those documents. And we have washed things through each of the VVSG iterations where they have definitions, through the FEC definitions that were provided in a 2001 document, I believe, and through all the different Federal documents that are out there. But again our focus was not to be consistent with any document that's out there – it was to be able to define these, the voting system in terms and properties that will help us to assess, to produce tools and techniques to assess the risk of the voting systems.

MS. BENHAM:

I'm going to translate again for Dr. Yasinsac. The bottom line is, you shouldn't find any conflict. And if you find something that's a direct conflict, then we would want to know that. They have been repeatedly reviewed and we're not aware of any that are in direct conflict with the VVSG.

MR. MASTERSON:

Sarah asked me real quick, and Ann I think this goes to your point a little bit. To clarify, I can print up sort of the summary Statement of Work that was issued to bring this, you know, to contract for this Threat Assessment, and I think it will clear up a lot of questions about the nature of this Threat, what the point is, where we're going with this, so that it's very clear what our focus was. For instance, to help inform our decision making on the VVSG. So what I'll do is get that printed up and make it available to you all so that it's clear. That's something that I should have had available to you earlier and I apologize for that.

DR. YASINSAC:

It occurs to me that everybody is ready for golf. Okay, no further questions? Thank you very much.

CHAIR BARTHOLOMEW:

At this point in time I'd like to let you know about our voting process. The voting process will occur across the hall. I've been asked to have the people on my left exit through the back doors.

The people on my right, through the side doors. And then after you are done voting, there are cookies and coffee in Seminole B where we had lunch.

SECRETARY CHAPMAN:

Hi, Beth Chapman, Secretary of State for Alabama. I was going to recommend, it may or may not be accepted, that we vote by acclamation since the exact number of members were recommended today at lunch. And if that is suitable to the Chairman, I would certainly put that in the form of a motion.

CHAIR BARTHOLOMEW:

Actually, as the Board, we did talk and address that item amongst ourselves quickly. We did have the State of Florida provide us with balloting and equipment and great effort has gone towards preparing us for voting and it is an opportunity for everyone to use the new M-200, so we would ask that you would continue to use the process as they have gone out of their way to supply that for us. It's a great idea, and unless there's a motion and a second, if we could go ahead as processed, if that's the best...

MR. BARTLETT:

Madam Chair.

CHAIR BARTHOLOMEW:

Yes?

MR. BARTLETT:

Gary Bartlett, North Carolina. Are we going to vote on a non-certified piece of voting equipment?

[Laughter]

CHAIR BARTHOLOMEW:

I would defer that to the EAC.

Yes sir?

MR. PALMER:

Don Palmer, Florida. That is certified by the State of Florida.

CHAIR BARTHOLOMEW:

Thank you. We will be breaking now and if you can, proceed across the way to vote. Thank you very much.

[Break for voting]

CHAIR BARTHOLOMEW:

If we can prepare to get started for our final portion of today's meeting. I have a couple quick housekeeping things at this time and then we'll move forward to the last presentation.

I wanted to let everyone know that the EAC staff members out in the lobby area will have Federal Express labels and boxes to ship your notebooks home tomorrow. You must provide them with either a credit card or an account number and then they will have them picked up and shipped to your location. So if you can be prepared with that information tomorrow morning, you can get them from Sharmili or any one of the staffers out front.

Additionally, the Resolutions Committee, if you can meet immediately after the presentation in this room so that you can work on your Resolutions for tomorrow. They would like to quickly get it accomplished this evening, so if you can meet in the front area here immediately after the presentation.

And then tomorrow morning at 8:00 a.m. in the Seminole B room, there will be coffee and refreshments, light refreshments, for you, similarly to this morning. It does not count against your per diem. It will be coffee, donuts, and light refreshments. Seminole B, 8:00 a.m.

With that, I will turn it over to Commissioner Beach to introduce our next speaker.

COMMISSIONER BEACH:

Our next speaker will be doing a presentation on UOCAVA, A Threat Analysis on UOCAVA Voting Systems, and that is Lynne Rosenthal. Ms. Rosenthal is the manager of the Information Systems Group at the National Institute of Standards and Technology's Information Technology Laboratory. She is responsible for the development of software conformance test methods for promoting equality development and accelerating implementations and use of information technology. Ms. Rosenthal has developed conformance tests for several standards and currently leads a team of NIST scientists in the development of

standards and test methods for U.S. voting systems. She has assisted industry and government organizations in establishing conformance testing and certification programs, including the EAC and the Certification Commission for Health Information Technology. Ms. Rosenthal has published many papers and guidelines on quality assurance, conformance testing and software standards.

MS. ROSENTHAL:

Thank you Commissioner Beach.

Thank you, it's a privilege to be here. Good afternoon. It's always a grand opportunity for us to talk about the work that we do at NIST. And in particular, to talk about the work on UOCAVA voting systems, the report that we finished last December. So what I'm going to more or less do is really just give you an overview of that report and then talk a little bit about "what next," which I think is where many people may be very interested in.

As you all know, the EAC is tasked with looking at the challenges faced with overseas voting, with electronic transmission of ballot materials, and NIST assists the EAC by doing technical research. The part of NIST that I'm from, and that does work on the voting project, and in particular that has worked on this UOCAVA Voting System report is from our computer security area. They are well versed in all aspects of computer security from crypto to digital

signature to, whatever, risk management, and also have network backgrounds. We also have a group of scientists that are looking specifically at network problems and the security of networks including sending information over the internet. So we are well versed in looking at this problem.

So, with the overview of the report, it is A Threat Analysis for UOCAVA Voting Systems. It basically looked at five different transmission methods and it took the voting process and sliced it into three different areas – the voter registration and ballot request, ballot delivery, and then ballot return. And with each one of those transmission methods, we looked at the risk assessment of those and looked at each method for each one of those phases. So for ballot request, we looked at postal mail, fax, e-mail, internet, etc. And we do the same for ballot return, the same for registration requests. And we used for our analysis two NIST special publications – one on risk management and the other on security controls, basically controls for how do you mitigate the risk.

With the conclusions, basically the main concern with registration and ballot request, regardless of the transmission method but, of course, with each different transmission method the threats or the risks involved are somewhat different, but the main concern here was handling sensitive voter information. You know, that private, what in the government we call PII, private information.

There are some threats. There are some challenges. But the risks can be mitigated through security, technical and procedural controls.

The same with ballot, blank ballot delivery. Again, here the main concerns would be the reliable delivery and the integrity of those ballots that are being delivered -- that the receiver knows that that is the ballot that they should be using and it hasn't been changed in transit in any way. And again, the threats at this stage can be mitigated through different procedural, technical and security controls. It's not to say that there aren't going to be risks, it's just that there are ways to balance out those risks.

And finally, ballot return. As many of you know, this is probably the most challenging area. There are some real challenges with verifying that the voter returning the ballot is a registered voter, that the privacy of that voter is intact, and that the integrity of the returned ballot is intact as well, that it hasn't been changed in any way.

Obviously, I think many of us have heard that there are scientists are out there, there are advocates out there, who pretty much say don't do it. There are also many of you who are struggling with balancing "we have a problem here, we need to look at this, we need to do something." And many of us who do electronic banking and everything else over the internet, who are

wondering why can't we vote? But there are some real challenges here. The report does not say you can't do it. It does not indicate that it should be done. It pretty much just says there are some real serious risks here. And with today's state-of-the-art technology and security controls, that those risks still can be high. There are a lot of challenges with using the internet, and a lot of it has to do with the fact that those computers, those servers, are located throughout the world, and outside the election official's control. There are ways to mitigate as I'm sure many of you know by using different types of environments, if you will, whether you use a BPN, whether the ballot is returned from a kiosk. That may help in some situations to mitigate against some of the risks. But then there are other risks to look at.

So the report again is at a, more or less a high level and just outlines what some of these challenges are.

All right, next steps. This is our Phase 2. And with the Phase 2 we're going to get into much more detail. We're going to be looking more closely at what's being done, what some of the issues are that you're facing. We're going to be looking at what some of the manufacturers are producing and looking at. And here's where I look at you and say, "We need your help." We'd like to know who of you, which states, actually have legislation, what kinds of documents have you produced, what are the issues that

you are facing, what are some of the things that you're thinking about, if you've had pilots or are using any type of electronic methods, what are you using and how are you setting up your environments? Here's where we're really going to be reaching out and we ask for your help in understanding what you are facing and what you are doing.

The report that we're going to provide to the EAC, it's probably going to be at least two reports. I think we're going to handle ballot returns separately than the request for blank ballot and the delivery of blank ballots. The problems are different there. It's easier to do the request and the blank ballot delivery. But again, we're going to be reaching out, not just to you, but to all stakeholders including those manufacturers coming up with solutions that maybe some of you have looked at or are using, as well as the academic, the academics, the computer scientists, and finding out, you know, where they're coming from and what they see are issues and problems.

We're hoping that the reports that we produce, at least the report on sending and receiving the requests for materials and the blank ballot, will have much, much more details, have guidelines, have some criteria, and provide that to the EAC so that they can take that to the next step of providing Guidelines. The ballot return, again, as you know, and I keep repeating, is a difficult problem.

And there we'll probably get different environments and what can you do under different types of environments, whether it's a kiosk environment or whether you use a VPN or whether, you know, the risks with everybody votes from their own PC, that kind of a thing. And look at trying to provide, from a holistic point of view, some of the security controls that could be considered. And by implementing some of these controls, what advantages do you have? What does it help eliminate? And try and be as specific as we possibly can.

The report, Threat Analysis on UOCAVA Voting Systems is available at vote.nist.gov. And it was written by Andrew Regenscheid and Nelson Hastings, our two computer scientists, and they're probably going to be the two that you end up talking to since they're taking the lead on this.

Do you have any questions? It's the end of the day. It's a long day, so I appreciate any questions that you may have, I'll try to answer.

MR. HARRISON:

We have had a problem which I think is really out of your scope, but I'm curious to see if it's surfaced in your area. And that's the fact that the party candidate selection time sometimes is so short that it's difficult to print and get out the ballots timely. Of course that would be a party matter since they choose when and

how their people are selected, but we have seen that impact. And if there's any delay or question about the ballot having to be re-done, occasionally a printer makes a mistake. And to get them out. I don't know that we've had any problem of, it appears to be fraud or anything of that kind with them coming back in, but the other has given some anxious moments to our Registrar.

MS. ROSENTHAL:

I bet. No, we have not looked at that, that part of the process at all.

MR. HARRISON:

So that's really kind of in our ball park.

MS. ROSENTHAL:

Um'hmm.

MR. HARRISON:

Thank you.

MS. ROSENTHAL:

Yes?

MS. MCFARLANE:

Jonda McFarlane, D.C. Do you have any timeline on, on what your goals are for getting some answers here. I think this is an area of great concern because of course most of these people are, a great majority of them, are military service and they, probably more than a lot of us, deserve to have their votes counted.

MS. ROSENTHAL:

Absolutely. And thank you, that is something I should have addressed. We're working right now with the EAC to come up with what I'm going to call a Plan of Action where we're going to outline here are the things that we need to do in the order that we plan on doing it. Over the next, I don't know, month or two we'd like to be very much doing an outreach attack, if you will, gathering information. That's not to say that we're going to stop after, you know, eight weeks or anything like that. But we're planning on jumping in and going full force. My goal, my, and what I've been told, is that we expect to have at least the first report, the one that addresses the ballot requests and blank ballot delivery by the end of this calendar year. Not sure about the other report on the ballot, the concluded ballots, where we'll be with that and how much information we'll be able to release. But we will, we're aiming towards the fall to have a draft of the report.

MS. MCFARLANE:

Well that's good news. Jonda McFarlane again. And on this, this, the report that you're going to be working on, then, will have not just a sort of a thorough description of the problem but what you're thinking of as some solutions or answers?

MS. ROSENTHAL:

Well, I'm not sure we'd call them solutions here at NIST, but much more detail than this first report. This first report was purposely done at a very high level, without us going to you and asking what are you doing? And taking more, in a way, maybe an academic approach, or a scientific approach. This next report will have criteria, or guidelines, or, I'm not quite sure what to call it, you know because we all in our minds have our own definition. You know, we're not going to provide to the EAC a standard in the vein of the VVSG Set of Requirements. But what we will provide them with, whether it be a checklist or here are the criteria or here are the things that need to be done, we'll get very specific.

MS. MCFARLANE:

To follow up, I do know that the, I think probably both of the political campaigns in the last election were concerned about this. And I know that the McCain campaign was working with people at EAC to try to get some help in this direction. But they are both, of course, resources, aside from election officials that might have some good hands on ideas.

MS. ROSENTHAL:

I appreciate that. And if you know of any specific names of somebody, that would be great. We'll follow up on that. I know that there are several people at the EAC that we work very closely with on this.

MS. MCFARLANE:

Thank you.

MR. PALMER:

I have a question. Don Palmer, Florida. In your analysis, your preliminary analysis, this first step, on the voted ballot return when you use terms like "risk" or "reliable delivery" are you considering the untimely delivery? Like if a ballot doesn't get there in time or doesn't get back in time, as a risk?

MS. ROSENTHAL:

I wouldn't call that a risk. I don't believe the report considers that a risk. It is an issue and the report does consider it an issue, but it's not a threat. And...

MR. PALMER:

Well, that's what I thought and I think you should reconsider that because the potential of disenfranchisement, where we're talking approximately 20 percent of absentee ballots don't make it back in time. That is a risk.

MS. ROSENTHAL:

Okay.

MR. PALMER:

That is a threat just as important as somebody intercepting an email transmission or the ballot in it.

MS. ROSENTHAL:

I do know the report does address, you know, the fact of trying to get these ballots back in time, or even sending out a blank ballot and making sure that it's received in time. I know it talks about that . But I'm not sure if it actually classifies it as a risk. But, I'll take that back. That's very helpful.

MR. PALMER:

I mean, at the least, it's a challenge.

MS. ROSENTHAL:

Oh, absolutely.

MR. PALMER:

We have to compare the risk of using e-mail, using electronic transmission, or some other type like fax or just mail, and there's a risk to every voting transmission we use.

MS. ROSENTHAL:

Absolutely. And it is consider in the sense of, you know, if you're sending something does it get received and is it received in the timely manner? But I'm not sure that it's, that we classify it as a risk per se. But I will take that back and it's very helpful. Thank you.

MR. MASSEY:

Jim Massey, Maryland. Will the report actually, maybe talk to some of the voter assistance offices with the Armed Forces because it seems like their input into the whole process might be

helpful. We're real frustrated with them in my county and I think that, it seems like they're doing their thing and we're doing our thing and there's no coordination in between.

MS. ROSENTHAL:

That's an excellent suggestion. Thank you.

Back here.

MR. HANDY:

Thank you. Nick Handy from the state of Washington. Our office actually has a Bill before our State Legislature requesting authorization to do some internet voting projects with military and overseas voters. And, as one could expect, we have pretty strong opposition from some folks. And of course they are waving the NIST report in front of our committees and calling attention to the committee members the concerns about delivery and privacy and so forth. So that's an issue that we're trying to manage. I'm encouraged to find in your Report that under Next Steps you'll be developing high level system goals and strategies for electronic ballot return, which for us would be encouraging. And, I guess we would be hopeful that NIST would come out with some standards and some guidelines that would advise a state if you are going to be embarking upon an electronic ballot return kind of a project what kinds of standards would need to be present and how could this be done. Obviously we're not at a point of designing such a system,

but if NIST had standards out and guidelines or suggestions on how this could be done in such a way that it would be reliable. I think there are a lot of states and a lot of election communities awaiting some really balanced scientific research and guidance on this particular topic. And so, that's just, I guess if I was to put this in the form of a question, I'd say, "Can you expand upon your plans for high system goals and strategies on electronic ballot return?"

Thank you.

MS. ROSENTHAL:

I'd say absolutely, and we've had the pleasure of talking to several of your staff. Shane and Paul Miller and a few others, and they were gracious enough to send us the legislation and we hope to continue that dialogue. And that is one of the things that we'd like to hear from you, is what would you like us, like to see from the reports. I'm not promising you'll get it, but at least, you know, we'll try to meet what you want as closely as we possibly can. A lot of what we're going to be providing is not telling you you have to do something, but tell you here's what's out there that you can use. And if you use it, this is the benefit that you'll get from it. Or this is what's out there and here's, there's some risks, and are you willing to take the risks? And here's some of the trade-offs. And that's probably what this next document is going to look like. And again, we like to have these dialogues and, you know, capture exactly,

you know, what you want so we can get as close to that as we possibly can.

Back there.

MR. SHOLL:

Howard Sholl from Delaware. Will, will you make any effort to quantify the risk? In other words, if you say it's got a higher risk that this, does that mean it's a one percent risk versus a two percent risk or a ten versus twenty?

MS. ROSENTHAL:

As much as NIST likes to come up with, you know, calibrating the uncertainty of certain things, typically what we've done when it's come to risk with many of our Federal guidance on that, is the best we can do is low, medium and high. And we can't really get much better than that. I'm not a risk expert, but that's, and so I can't tell you why we can't come down to something more specific. But I think the EAC is, the presentation you heard before with this risk tool will probably help as well. And, and we've been working and sharing with that team. Any other questions?

MR. CAMPBELL:

I have a question. Bill Campbell, Massachusetts. More of a comment on something that you can put in your knapsack and if this comes up you'll consider it. It is, one of the statement is 'fax presents fewest challenges but limited privacy protection.' Privacy

is already an issue, at least in my jurisdiction. I'm a local election official. And in Massachusetts if we have an overseas ballot that we receive up to 10 days after the election, we still count it. And what we do is have a special meeting of the Board of Registrars after the tenth day. We gather whatever ballots came in after the close of the polls. And we open the envelopes, and you try your best to separate the envelop from the ballot so you don't breach someone's privacy, but when you have one ballot from overseas in ward 5 precinct 2... I mean, I try very hard and I try to erase my mind when I leave, but privacy is already an issue. And I have someone else who lives in my community who's in the Peace Corp and she's on the island of Vanuatu, which I think is in the South Pacific, and I'm told it takes six to eight weeks for her to get mail. And right around the time I was sending her her absentee ballot, she was also waiting for medication for worms that she had, so she was going to wait the eight weeks for the worms, but my ballot has to get there before her medication. So I just, the realities of the world just really drive this whole thing.

MS. ROSENTHAL:

I don't envy you, your jobs. They've very challenging. It's very difficult.

MR. CAMPBELL:

But I think, like fax, although it seems like that might be the worst alternative, may actually be the best because it's immediate. And if it goes to some kind of centralized, secure, all of our absentee ballots, at one point or another, if we want, we can know how somebody who absentee voted voted. We try our best not to, but it can happen. So I just think we have to be mindful of that.

MS. ROSENTHAL:

Absolutely, and I appreciate the comment. I think that's exactly right.

And that brings up another point. One of the real differences between what this work and this report will have that the VVSG did not have, was we need to address procedures in this report when it comes to overseas, internet and overseas UOCAVA voting. Procedures is a big part of those controls that can mitigate some of these risks. And if you notice in the VVSG, we, there's nothing, we're as far away as we could reasonably get since we were targeting voting systems per se. So that will be a big difference between the different documents.

In the back here.

MS. CHAPMAN:

Hi, Beth Chapman, Alabama. We talk about risk and when we start talking about UOCAVA voters, and military in particular, we start coming up with all these risks, what if, what if, what if. Well,

my God, it's what if when you send it an hour from the state capital. And the biggest risk is that we are disenfranchising men and women who have given their life for our country. That's the biggest risk and we need to stop talking about risks of "what ifs" and talk about the risk, or the fact, that people who are serving their own country are not being given an equal right to vote.

MS. ROSENTHAL:

I can't agree with you more. And we recognize that and that is why our answer at NIST is, no you can't do it, our answer is there's reality and what we can do is provide you with enough information so that you can make that decision as to what you want to do in your state. I agree with you. Personally, and speaking for NIST, that's a real problem and it needs to be addressed.

Anything else? You're making this easy for me after what I've seen others go through. Yes?

MR. PALMER:

Don Palmer from Florida again. As part of your study are you looking at sort of the unique nature of Florida, not Florida, of the military use of e-mail with the digital signature, with the certificate that they have, and the biometrics that are associated with each individual military member? Not that every computer will have that, but they do have, I would say a higher security level than most laptops, computers. And that's sort of unique to the military

individuals even out in the field. And, it's sort of a fax, but it's sort of something I'm not sure you'd be able to use in your analysis, but the use of fax is decreasing. The actual use of fax, in the field is actually, I mean it's sort of old technology and the use of scanners and e-mail is much higher now. So that may be something to consider when you do your analysis.

MS. ROSENTHAL:

Yeah, we were asked to look at fax, telephone, e-mail and, you know, the web based type of thing. And that's why we're doing it. Ideally we'd drop off some of those, but we're not. We'll address them all. That's a good point. The military does have, you know, the advantage of having extra security on various, you know, even their phone system has, you know, they have the secure phone system and all. So, yes, we are going to look at that. And that is why, as part of the report, and I'm not quite sure how it will be sort of structured, but we do need to look at different types of environments and what that environment is and how is it defined and what features of that environments and then what types of threats or risks and mitigating controls are, for that environment. Because you change that environment and it changes everything. So, yes, but we can't just say, we provide something, just you know, okay if you're in the military and you've got security phone

lines or you've got secure e-mail and everybody else, sorry, you know. But, yeah, we will.

MR. WEIR:

Hi, Steve Weir from California. You know the Pew Foundation and Jet, Jet used to exist, they actually had all their money with Bernie Madoff and they disappeared in very late December, but Pew still is in existence. At their December meeting in D.C. they had a breakout group on internet voting, and since I'm so afraid of internet voting I went in and sat in on that. And I don't know if you have any formal contact with that group, but they were fascinating.

MS. ROSENTHAL:

Yes, we do have some contact with that group and plan to have more discussions with them as well.

I'm sorry, Don Palmer did you have a follow-up? You had your light on and switched it off. It looked like you had another question. Okay, sorry.

MS. CEGIELSKI:

Stephanie Cegielski, state of Colorado. I can say from Colorado's perspective, we actually have a Bill before our State Legislature, it's sitting in Appropriations right now, for an on-line voting pilot program for military voters. And it's, we strictly limited it to military voters at this time. So we are going to have to go

through the process of actually, we expect the Bill to pass out of both Houses and be signed by the Governor. So we're going to have to go through this very soon.

MS. ROSENTHAL:

Okay, again, we'd like to talk to you.

MS. CEGIELSKI:

When would you like to talk?

MS. ROSENTHAL:

Sooner is probably better for you and us than later.

In the back.

MR. LINDBACK:

Hi, John Lindback, Oregon. I'm glad Steve brought up that Pew Voting Seminar because I was there too. And there was actually was some very interesting information that came out of California at that meeting, which is about, apparently California passed a law that allows military voters to return their ballots by fax. Is that correct? And the information provided by the counties, some counties from California, I think it was Menlo and Orange, was that prior to passage of that law, their turnout statistics for military and overseas voters were below that of the general population. And since passage of that law, the turnout of military and overseas voters now equals the turnout of the general population. And so, perhaps there are some low-tech solutions that people might feel

more comfortable with even though with faxing a return ballot you do give up some confidentiality of your vote of course.

MS. ROSENTHAL:

Well, it's a choice I think the state's made to, you know, if you're disenfranchising somebody to not vote at all. And as a voter, do you, would you rather vote and give up, possibly give up privacy, but have that, you know, there's choices here. In the back.

SECRETARY HERRERA:

Mary Herrera, New Mexico. In New Mexico we mail out the Federal ballot to overseas and military voters 45 days before the election. Well this year we did set up through the Federal Assistance Program voluntary, through a secured line, so that they could vote the entire ballot. And 12 county clerks did sign up and basically, and a lot of the areas in New Mexico where we have military bases, they signed up for, to allow them to vote the entire ballot. Now there's a Bill in the Legislature that is being carried by one of the Representatives that is going to make it mandatory. So I wanted to bring that up so when you're doing your studies and writing your papers, you're going to kind of have to look at every state and see what is going on. It worked really well. What the county clerks did was assign one person to this secured line and only one person received the ballots as they were coming in.

MS. ROSENTHAL:

We'd like to talk to New Mexico as well and find out more about how that worked. What systems were used, how it was set up, and that type of stuff as well. It's great to know. Good.

Anything else? Thank you.

CHAIR BARTHOLOMEW:

At this time I would ask the Elections Committee to come forward and present the results.

MS. BAILEY:

Madam Chair, before we present the results I'd like to, once again, thank those members of the Nominating Committee and the Election Tabulation Committee who worked to conduct your election today. And also, once again thank the EAC staff, and particularly Sharmili Edwards who was so wonderful through the entire process. And lastly, Bill Cowles and his staff for providing the equipment and the ballots that we needed to do the election.

[Applause]

MS. BAILEY:

And with that...

CHAIR BARTHOLOMEW:

At this point in time I would like to announce the results of the election. For the local representative, Dan English, Russ Ragsdale. For state, Beth Chapman, Brad King, Donald Palmer, Jim Silrum and Leslye Winslow. Welcome aboard.

[Applause]

MS. CHAPMAN:

Excuse me, Madam Chairman, is it okay if those of us who were candidates today collect money to pay off our debts?

[Laughter]

CHAIR BARTHOLOMEW:

We'll forward that to the By-Laws Committee.

At this point in time, there's no further business for today's meeting. Anything from you? Any questions from out on the floor?
Jim Silrum.

MR. SILRUM:

Could we ask Nick Handy and anybody from Washington and Gary Poser and anybody from Minnesota to please conduct a recount on that last election?

CHAIR BARTHOLOMEW:

Again, we'll forward that to the By-Laws Committee.

At this point in time I will remind you that tomorrow morning at 8:00 a.m. we do have light refreshments and coffee in Seminole B and we will recess until tomorrow morning.

Resolutions Committee, up front.

[Whereupon, the meeting recessed at 5:05 p.m. EDT.]

