EXECUTIVE SUMMARY TRANSCRIPT
TECHNICAL GUIDELINES DEVELOPMENT COMMITTEE (TGDC) MEETING
FRIDAY, JULY 9TH, 2004
1225 New York Avenue, N.W., Suite 1100
WASHINGTON, D.C. 20037-2519

COMMITTEE MEMBERS:

Dr. Arden Bement, Chairman
Hon. Donnetta Davidson
Alice Miller
Sharon Turner-Buie
Helen Purcell
James Harding
James Elekes
Anne Caldas
H. Stephen Berger
Dr. Britain Williams
Paul Craft
Dr. Ronald Rivest
Dr. Daniel Schutzer (via telephone)
Whitney Quesenbery

Others:

Allan Eustis, Project Leader Voting System Standards
Craig Burkhardt, Chief Counsel for Technology

U.S. ELECTION ASSISTANCE COMMISSION:

DeForest Soaries - Chairman
Gracia Hillman - Vice-Chair
Ray Martinez
Paul Degregorio - Federal Officer for TGDC

Taken by: LaDonna M. Woods a court reporter

(The meeting was called to order at 9:05 o'clock, a.m.)

CHAIRMAN BEMENT: I'm Arden Bement, of the National Institute of Standards and Technology, and Chairman of the Technical Guidelines and Development Committee. I hereby call to order the first meeting of this Committee today, July 9th, 2004.

Public Law 107-252, the Help America Vote Act, establishes the Technology and Guidelines Development Committee. HAVA charters the members of this Committee to assist the Election Assistance Commission (EAC) in the development of voluntary voting assistance guidelines.

As Chairman, I am appointing Allan Eustis, project director, and Craig Burkhardt, counsel and parliamentarian. Allan currently is Project Leader for NIST's Voting System Standards efforts. Craig is General Counsel for the Department of Commerce's Technology Administration. Both Allan and Craig are here to make sure the Committee operates smoothly. They will provide comments later on today.

At this time, I'd like to call on Mr. Burkhardt to determine the status of our members, and also, to establish a quorum.

MR. BURKHARDT: Thank you, Dr. Bement. I'm Craig Burkhardt, and as Dr. Bement mentioned, I'm the Chief Counsel for Technology matters at the Department of Commerce, and I certainly bring you greetings from the Commerce Secretary, Don Evans, and welcome those of you who have journeyed to Washington, D.C. to be here.

I'm on the team, as Dr. Bement will shortly describe to you, to provide advice and support to the TGDC and the EAC on a number of the items that you will be pursuing over the next nine months. There are, in addition, lawyers working directly with the EAC. And one of the tasks which those lawyers had to do was to collect from many of you, a financial disclosure form, which is required by law. I will tell you the efforts that have been made to very quickly distribute those forms, collect them from you, and distribute and to review them, have been extraordinary in their timeliness, given the fact that this has taken place in less than a week, when normally these things can take up to a month or two.

I need to announce that there are still yet four people for whom the review process has not been completed by the lawyers working with the EAC. Temporarily, they will not be included on the roll calls for various formal motions and votes that will be taken. I will tell you that, actually, as we speak, that review process is ongoing. So during the day, we may be adding one or more of these four people to the roll call officially. The four people who I need to advise should restrain yourself from voting and from actively participating in the conversations today until you are added to the roll call would be Ms. Turner-Buie, Dr. Rivest, Dr. Schutzer, and Mr. Gannon. The rest of you will be called on roll calls and will also help make the quorum. And as the other four are finished in the review process, if you will, I may have announcements from time to time during the day. You are certainly welcome to stay here, observe, and participate in that particular manner. And when we come to the self-introductions part of the agenda, you will be encouraged to participate in that portion of the agenda.

In order to conduct this meeting, we need to have eight voting members who, of course, have finished the review process. So I am going to go through, and I'm going to read a roll call to establish our quorum. I might also say that when we take votes on motions, which are of significant impact, we will take a roll call, by which Dr. Bement will introduce me, and I will just rapidly go through the roll call, and ask you to cast an "aye" or a "nay" vote for formal recording, because as a federal committee, we

have to vote in public. A secret ballot may apply in the voting booth, but it does not apply at the deliberations we'll be engaging in before this Committee.

So, for purposes of roll call, I'll say your last names, and please announce by simply saying "present" that you are here.

MR. BURKHARDS: Dr. Bement?
CHAIRMAN BEMENT: Present.

MR. BURKHARDT: Ms. Davidson?
MS. DAVIDSON: Present.

MR. BURKHARDT: Ms. Miller?
MS. MILLER: Present.

MR. BURKHARDT: Ms. Purcell?
MS. PURCELL: Present.

MR. BURKHARDT: Dr. Harding?
DR. HARDING: Present.

MR. BURKHARDT: Mr. Elekes?
MR. ELEKES: Present.

MR. BURKHARDT: Ms. Caldas?
MS. CALDAS: Present.

MR. BURKHARDT: Mr. Berger?
MR. BERGER: Present.

MR. BURKHARDT: Dr. Williams?
DR. WILLIAMS: Present.

MR. BURKHARDT: Mr. Craft? Not present yet.

MR. BURKHARDT: Ms. Quesenbery?
MS. QUESENBERY: Present.

MR. BURKHARDT: Dr. Bement, I would advise you that a significant quorum exists for the conduct of business for the Technical Guidelines Development Committee, and you may wish to make that declaration as Chairman. Thank you so much.

CHAIRMAN BEMENT: Thank you very much. I so declare.
First of all, I would like to thank the Commission for making available to us these wonderful facilities and also being present with us this morning as We go through our first meeting.

CHAIRMAN BEMENT: One thing I really need everyone to hear is what we need to do if we should have an emergency, which we hope will not occur. There are three stairwells outside this door which will provide egress, and there will be people to assist you, if necessary. They're fairly easy to find near

the elevators. Also, the restrooms are just outside that door to the left. I think you'll be able to find them readily.

As was mentioned, Dr. Schutzer is joining us by teleconference, and Mr. Craft, and Dr. Rivest are trying to make it here by plane. I guess one flight was cancelled, but they'll join us during the course of our meeting.

This Committee's initial set of recommendations for these guidelines are due to the executive director of the Election Assistance Commission in April of 2005, in accordance with HAVA's nine-month deadline.

In the interim, the 2002, Voting System Standards adopted by the Federal Election Commission serve as the first set of voluntary voting system guidelines under HAVA. In accordance with HAVA, the U.S. Election Assistance Commission and I have appointed 14 individuals to serve with me on this Committee.

Those members include:

- Two members of the Standard's Board;.
- Two members of the Board of Advisors;
- Two members of the Architectural and Transportation Barrier Compliance Board under Section 502 of the Rehabilitation Act of 1973, which forever more will be referred to as the Access Board;
- A representative of the American National Standards Institute;
- A Representative of the Institute of Electrical and Electronics Engineers;
- Two representatives of the National Association of State Election Directors, selected by such Association, who are not members of the Standards Board or Board of Advisors, and who are not in the same political party.

In addition, the Election Assistance Commission has appointed four individuals with technical and scientific expertise relating to voting systems and voting equipment.

A majority of the members of the Technical Guidelines Development Committee shall constitute a quorum.

At this time, I would entertain a motion to adopt that the latest revised version of Roberts Rules of Order be adopted to govern the Technical Guidelines Development Committee and subcommittee proceedings.

SPEAKER: So moved.

CHAIRMAN BEMENT: I have a motion. Let's hear a second.

SPEAKER: Second.

CHAIRMAN BEMENT: All in favor say, aye.
COMMITTEE COLLECTIVELY: Aye.

CHAIRMAN. BEMENT: Opposed?
(no opposed)

Our first meeting has an ambitious agenda with specific outcomes that are necessary for us to accomplish in order to move forward with the Committee's HAVA responsibilities. Specifically, as a Committee, we must agree on a procedural road map for standards development, as well as a preliminary work plan.

In addition, we will also receive briefings from NIST scientists on HAVA-related issues, and work currently in process. The time required to accomplish the agenda items means that the Committee cannot take public comment at this meeting. However, there will be other opportunities for the public to comment and provide testimony at future meetings, as well as electronically.

At this point, I should make known to those who may be in the back-up rooms that to provide e-mail comment, the e-mail address is voting@NIST.gov. I'll repeat that again, voting@NIST.gov. In fact, public comment that this Committee receives electronically and in open meetings will be critical to the standards development process.

I believe that this Committee must strive for five distinct deliverables to the EAC in the next nine months. These include the following:

- First, a list of publicly vetted requirements for the voluntary voting assistance standards:
- Second, recommendation of standards that currently exist and changes, if necessary.
- Third, an assessment of best practices that can be made available to the election community for us in the 2006 election cycle.
- Fourth, a recognition and statement, thereof, of those areas where there are no current standards under development; and
- Fifth a prioritized calendar for future standards development relative to each of the four previous deliverables.

I can now announce that Mr. Craft has been added to the roll call. Congratulations.

MR. CRAFT: Thank you.

CHAIRMAN BEMENT: At this time, I would like to entertain a motion to adopt the agenda for the July 9th meeting of the TGDC, which was distributed this morning.

MR. ELEKES: So moved.

CHAIRMAN BEMENT: Is there a second?

MR. HARDING: Second.

CHAIRMAN BEMENT: All in favor say, aye.
COMMITTEE COLLECTIVELY: Aye.

CHAIRMAN BEMENT: All opposed. (no opposed)

Before I ask Chairman Soaries and the EAC to comment, I would like to point out that the success of our work will be dependent on critical funding from Congress and Administration in the next fiscal

year and beyond. I think at this time, we can be optimistic that adequate funding money will be available to us in fiscal year '05, but we won't know until we get it.

Now, I would like to call on the Election Assistance Commissioner Soaries, as well as other members and other Commissioners to address the Committee on any remarks they may have.

CHAIRMAN SOARIES: Thank you, Dr. Bement, and let me thank all of your for your presence here, which signals your commitment to participate in this important Committee. Let me thank my colleagues on the Election Assistance Commission for the hard work they've done since January to advance the cause of implementing the Help America Vote Act, and the overall mission of election reform in this country.

Let me thank members of the public, who are here. We would have been so disappointed, we set up chairs for you, and we lowered the temperature of the room for you. So the fact that you're here is quite encouraging, but moreover, it's encouraging to know that there are people who are watching our process as we attempt to improve elections for all Americas.

Before I give my charge to the Committee, I'd like to introduce my colleagues on the Commission.

The Vice-Chair of our Commission is a very dynamic leader in her own right, who has brought grace and charm and elegance to what otherwise would be a very boring and drab set of male Commissioners. She has taken on many responsibilities, not the least of which being the organizing of, and being liaison to the Standards Board and the Board of Advisers. The work of this Committee will ultimately be vetted through those two Boards. They are defined by the statute, and she is our designated Federal officer to those Boards. And she has brought great energy and insight to our work, and I'd like to introduce for her brief comments, Vice-Chairman Gracia Hillman.

VICE-CHAIR HILLMAN: Thank you. I just want to welcome everybody and say thank you. And to pick up on the Chairman's comments, to say that I will be facilitating the recommendations that come from this Committee to be reviewed and commented on by the Standards Board and the Board of Advisors. And as you heard previously, we do have members from each of those bodies on this Committee to also help with the liaison work. It is really great to see this. For six months we have been trying to figure out how we were going to put together the resources, and within the time frame, to see the TDGC in operation. So, it's really nice to see that we were able to bring everybody together for the meeting. I thank you all for being here.

CHAIRMAN SOARIES: You can tell that Vice-Chair Hillman has been the one among us who has really specialized in the bureaucracy. You can assess how bureaucratized a person has become with the ease with which they use initials to describe organizations. We have called the TGDC everything. But she said it, it flowed so easily that you can tell she has really specialized in the bureaucracy.

The next Commissioner, who I'd like to introduce, is the young attorney from Texas, who has work in the Whitehouse, has a wealth of experience with local election officials, having represented many counties and their efforts to address the elections and other issues. He brings youth and vision and a dynamic to the Commission that makes us a better Commission. He has taken on responsibility for seeing to it that the states receive their requirements' payments as perhaps the largest portion of his portfolio. All of you know that our embryotic stages require that the Commissioners not only set policy, but also do administrative work. And this Commissioner is chiefly responsible for our being

able to report that the requirements' payments began to flow to the states within the statutory time that was prescribed by HAVA; and that within six months of our having been established as a Commission, that money began being distributed. He is a proud father, and as I mentioned, a very dynamic addition to this Commission. And I would like to call on him for his remarks now. Commissioner Ray Martinez.

COMMISSIONER MARTINEZ: Thank you, Mr. Chairman. I appreciate that very kind introduction. I am delighted to be here this morning. I join my colleagues, the Chair and Vice-Chair Hillman in Welcoming the formation of The Technical Guidelines Development Committee. (I think this is going in and out now. I think I'm trying to project as loudly as I can. Hopefully, everybody can hear me.) I do want to pick up on the comments that our Chairman just made; and that is the fact that we have over the course of the last two months or so, this Commission distributed close to $1 billion now of payments to state and local governments -- or to state governments, I should say, under Title 2 of the Help America Vote Act, The Requirements Payments. This is in addition to Title 1, Early Out Monies, that were distributed prior to the formation of this Committee -- of the EAC, I should say. The reason to pick up on those is the simple fact that we have distributed a lot of money; that is, Federal money, representing an unprecedented, historical role that the Federal Government is now playing in the administration of Federal elections. And we have money going out to states to improve the Federal Election Administration process, and the states are waiting for the Election Assistance Commission, and its very important statutory advisory committees like the TGDC, to offer guidance and advice on what to do with regard to the purchase of voting systems and related questions. There's no doubt in my mind that the formation of this committee is a major milestone for the Election Assistance Commission. There is much work to be done, and certainly I'm most supportive of Dr. Bement and our partnership with NIST, and the very fine folks that work there as we do the important work.

It seems like every time we come to a milestone, I say this is perhaps the most important thing the EAC will be doing. I'll be saying that a lot because we're doing, I think, so many important things, but we're doing it in a partnership with organizations like NIST, with our state and local election partners, with advocates for disability rights, advocates for voting rights and civil rights, with the entire community of people who are interested in improving the election administration process.

So I welcome you all today, and I look forward to the work of this Committee.

CHAIRMAN SOARIES: Thank you, Commissioner.
I saved the final Commissioner for last, not because he's the best cook, he's certainly not the best, but the shortest, I saved him for last because our presence here today is directly attributable to work he has done more than any of the four of us.

As I mentioned, we divided up our administrative focus into portfolios, and the next Commissioner took personal responsibility for the development of the Technical Guidelines Development Committee, which Commissioner Hillman easily says "TDGC". The Election Assistance Commission divided itself into five focus areas, the administration, communications, Standards and Advisory Boards, grants and research, and election resources. And consistent with the mandate of HAVA, we perceive that the ultimate resource for voting in this country is the setting of comprehensive standards that would be useful for testing, and useful for offering guidelines to all of the states.

The Commissioner, who has the most experience in actually running an election, is Commissioner Paul Degregorio. He served as the Director of Elections for St. Louis County for many years. He worked

with the International Federation for Elections, and monitored elections all over the world. So he brought to this Commission so much practical hands-on experience, that consistent with that, we ask Commissioner Degregorio if he would not take personal responsibility to oversee the election resources commitment of our agency. He has worked tirelessly to ensure that this Committee was named, that we work very closely with NIST to accomplish a meeting as soon as possible, and he is our designated Federal officer between the Commission as liaison to this Committee to ensure that there are no gaps, and to ensure that we have a healthy, productive working relationship. All three of us respect Commissioner Degregorio's expertise. We bring passion; he brings experience. And I'm proud to introduce him, and I thank him for the work that resulted in our being here today.

Commissioner Degregorio.

COMMISSIONER DEGREGORIO: Thank you, Mr. Chairman. I'm not a preacher, but I do pray, and I said a lot of prayers to get us here today. Let me just say, the past six months with EAC has been some of the most challenging but enjoyable six months of my life, because of my three colleagues here. The Chairman articulated very well what we've all been doing, but you know it's been teamwork.

Yes, I bring my expertise to the table, but my colleagues have brought theirs to the table, too, and we have worked as a strong team, a bipartisan team, over the past six months to do everything we can to implement the Help America Vote Act. This is a historical day for this Committee to be meeting, and to begin its work over nine months.

I just had my first granddaughter about ten days ago, and I watched my daughter as she went through her nine months of pregnancy. And my wife had four daughters, so I went through that experience. And now this will be a nine-month experience, too. So I know, you know, during pregnancies there's always ups and downs and many things. I know that this is a great team that's been assembled here. The 15 people here represent some of the best in the United States of America, some of the best professionals, best election officials. It's an honor for me to be associated with you, and I hope to be of assistance to you, to be the liaison with this group, with the Commission. It is my hope and prayer that all of you work as a team as we have the past six months, and that we could be your guide in how you proceed to do this work, because I think this country needs unification, democratic, republican, and it also needs leadership in this particular area. We recognize that there is not much you can do to change things between now and November in terms of election equipment or setting standards, but you will certainly set the stage for the future.

Commissioner Martinez worked very hard to get the money to the states, and the states are clamoring for guidance from you all on what equipment they should buy, or what standards they should use when they buy this equipment.

Vice-Chair Hillman worked very hard over the past few months to get money for this Committee for next year. And we're hopeful that her efforts will be successful. And we're confident, actually, that they're going to be successful, so this Committee can have the funds, so NIST can have the funds do its work and support this Committee.

The Chairman has provided great leadership over the past six months, but particularly on this issue. He's made public statements; he's encouraged us as Commissioners to focus on this issue, and we have. And he's provided great leadership.

I look forward to working with all of you.

I know Dr. Bement will be a great leader of your team; and anything that I can do for you, please feel free to contact me. I'll be sitting through your meetings when you have them, but here available with EAC, if you should need me for any reason. Thank you.

CHAIRMAN SOARIES: Thank you, Paul.
Let me now begin with clearly recognizing the fact I'm a Baptist preacher, and you gave us until 10 after 10 to do our business. We will not be with you all day, and we did want to communicate with you some very specific points so that you would really understand the significance that we place on your work, and the quality and relationship that we pursue.

I want to begin, though, by thanking the National Institute of Standards and Technology. Dr. Bement and his wonderful team have been marvelous, not only in the building of this Committee, but in the work of the EAC in general. Even before the EAC was confirmed, you should know that the National Institute of Standards and Technology, under Dr. Bement's leadership, began working on products and on research that would undergird the standard setting process through public forums, and through human factors' studies.

NIST has really preceded the EAC in the implementation of the Help America Vote Act. And I'd like to thank Dr. Bement publicly and personally for his commitment to the EAC, to the passion with which he and his team has pursued election reform.

Allan Eustis has been an invaluable resource to us. Craig Burkhardt has done everything except move tables in this office. Susan Zevin, before she left. It's just been a marvelous experience. And then, of course, Dr. Bement's capable deputy has stepped in because Dr. Bement now has added responsibilities due to recent changes in his professional life. There's been just a seamless flow of communications and coordination between the EAC and NIST, and we anticipate that that will do nothing but grow.

Now, let me focus on the Technical Guidelines Development Committee. I want to thank all of you personally for your willingness to serve. I don't know all of you as well as I know some of you, but my assumption about each of you is that none of you needed more work to do. I don't think you were praying and asking God to give you another assignment. I want to make it clear that your presence here today is only indicative of the fact that large groups of people have high respect for you and your work, for many of you have been designated by various institutions mandated by HAVA. But it also reflects the great character of this country because you are volunteers. We were able to buy your plane ticket, we got you a bed at a hotel, and we give you a couple dollars to eat lunch at McDonalds. I think it's Subway today. But this is a volunteer effort. If you look at America from a step away, you'll discover that America is, in fact, a great country because people do things just like without remuneration, without compensation, you'll get no stock options, you'll make no overtime. You're giving of your lives, you've sacrificed time away from your families, you've given up time away from your jobs to help America vote.

The fact is when the story of this country is told, it will have to include the fact that we were not just a great economic system, a great political system, but we were a network of people who were willing to do just what you do, serve on boards, serve on committees, and give up their own individual resources and intellectual capacity to make this happen. I just want to thank each of you, because none of you had to serve.

This has become perhaps a more high visibility and high profile mission than it would have been five years ago. Had we been meeting here in 1999, we perhaps, would have had much less pressure on us. We would have had less media attention. Our outcomes would have been less visible.

Now, not only do you give of your time, but you put your name on a list next to a list of names of people who you know will be criticized because there will be large groups of people who will not like the outcome of your work and we know that now. I want to thank you on behalf of the four Commissioners who could not make the critical decisions that we have to make, if you did not express a willingness to serve. Thank you in advance for the hard work and the hours that you'll invest in this process.

Our challenge in many ways is your challenge because we are now in this together. What we've discovered since coming to this task is that voting in this country was something that we really took for granted for a long time. That we began voting as a country in colonies, selecting delegates to represent the interests of the colonies as we discussed the future concept that we now consider to be America. And voting through the years has evolved managed by the states with the growth of the country. It's not as if we waited until we had 250 million people and then decided to vote. We voted our way from the 18th Century to the 21st Century. And that voting has, in large measure, been something that we assumed to be normal, but we never looked at it quite the way you've been asked to look at voting before. Because voting has been so normal and so regular, and it has been an election for something by somebody somewhere every year since we got started as a country, many assumptions have grown with voting. If you sit where we sit, and now you do sit where we sit, we've discovered that many of those assumptions were more mythology than reality.

One of the myths that has persisted in the country is that the Federal Government is much more involved in voting than the Federal Government has been.

Another myth that has evolved is that the machines upon which we vote have gone through the kind of vetting that our microwave ovens, and our cars, and other utensils have gone through. We are here today to turn that myth into reality, and to create standards that make us as confident in the equipment that we use to vote, and the voting systems that have embraced our democracy as we do all the other devices that we use in normal life.

The Help America Vote Act really changed all of that, and created a historic role for the Federal Government in the administration of Federal elections. Our job as a Commission is to be a national clearinghouse, providing information to the states. And that information has to be guided by the advice that we get in large measure from persons like yourself. We are faced with a challenge exacerbated by much more media attention given to voting devices than ever before in human history.

One of you, with whom I visited recently, told a group at my hearing that the media has done such a fine job in one jurisdiction, that there's almost no need to do any public education on the types of voting devices used because the media has done all of that. The media has described with great, great detail what a punch card looks like, what a legal machine looks like. And in that sense, the media has provided a public service. The media has also come to some conclusions and made its decisions without the benefits of real facts, and without access to real science, that I think has made our jobs even harder.

Our challenge over the next nine and a half months is to ensure the process that has integrity, so that the products that we produce from this process have equal integrity. I'd like to charge this Committee

to be committed to principles that I know all of you share; but sometimes it's harder in a group to maintain the commitment to certain values that you possess as individuals. I'm going to charge you as Chair of the EAC, to work hard to rise above any partisan, geographical, or philosophical differences by keeping the focus on the mission.

I want to charge you with keeping open minds as we have had to, because there are numerous people who have already made up their minds as to what you should do. They will call you, they will e-mail you, they will lobby you, they will threaten you, and they will try to convince you that only they, only they, know exactly what the outcome of your work should be. I want to charge you with having open exchange. We've had as a Commission, wonderful experiences disagreeing without becoming disagreeable. You will never read about or hear about any disagreements we've in public, because all of our disagreements are in private. I would urge you to attempt as best you can, to keep the process on the one hand open and transparent, but on the other hand, to keep it unified sufficient to jelling as a team, and fostering a sense of team effort.

I also want to charge you to do your work in nine months. One, because the law requires it; and two, because we do have a sense of urgency as it relates to this mission. It would be better to produce a product in nine months, and have another product deferred, than to get too caught in the quagmire of perfection, and not come up with anything at the end of nine months. Dr. Bement will talk in much more detail about these topics, but we are encouraged, again, because so much work has been done by some very important people, even prior to today.

The NIST Human Factors Report is a report that the four Commissioners embrace enthusiastically. It was a report that identified major challenges as it relates to usability. It was a report that had objectives that we think should guide this Committee, at least in the area of usability. And it's a report that we would urge you to take very seriously and consider as you decide on your priorities and your timetables.

The IEEE Project 1583 is very important work. I'd like to thank that organization for the work they did as it relates to considering standards and options for standards, and for establishing really, a precedent for participatory inclusive standard setting process. I think this Committee would do well to embrace the products in the form that they're in, and to consider what the implication and requirements.

We would be remiss if we did not thank and recognize the National Association of State Election Directives for the fine work that they did. The concept of voting system standards did not really emanate from any vision in the halls of government, at least the Federal Government. Rather the notion of voting system standards really emanated from the passion and the vision of state election directives.

We have among us Alice Miller, who is a former national leader of NASED. We have two representatives of NASED at the table, Mr. Craft and Dr.Williams, and I think we all owe each of you a debt of thanks. Many of you around the table who are not in NASED contributed to the NASED process. The National Association of Secretaries of State and others contributed from 1975 going forward to a process where volunteers without compensation, without even reimbursement, traveled around the country, went to meetings, and created the only voting system standards to which Dr. Bement referred a little earlier, that we have today. Were it not for NASED, were it not for that group of people, we would not even have the FEC 2002 standards, which started in 1990, but the work started long before 1990. And NIST, in its former life, contributed to that process also.

We're indebted to the work of NASED, and therefore, I think we owe it to history, we owe it NASED, and we owe it frankly to common sense, to really consider how much of the 2002 Federal Elections Commission standards can be embraced, and use that as a starting point, and not throw out the baby with the proverbial bath water, thinking we have to start from scratch.

I also want to generally say that we are ultimately looking for standards that are performance-based, standards that can measure success as it relates to voting, standards against which new voting devices can be measured; and standards that embrace existing and emerging technologies, recognizing that it will never be our responsibility to dictate to states what kind of voting devices they use. Rather it is our responsibility to establish standards against which states can make informal decisions. If we were in church, I'd say that's the Devil.

MR. EUSTIS: Could the people that are around the conference call please push their mute buttons, make sure your mute is on. Thank you.

CHAIRMAN SOARIES: Having said that, let me share with you our commitment as a Commission. And I can speak for all four of us, even though we've never had a public meeting to vote on what I'm about to say. That's my disclaimer.

We are committed in the first instance to making sure you have money. Paul mentioned Commissioner Hillman's work. She's taken responsibility for helping us craft and market our budgets. You may not know that we have received support from the Office of Management and Budget, and the White House to amend the President's '05 budget, to include $10 million for research for this undertaking that had not been in the original submission. We're going to continue educating members of Congress. We are forbidden from lobbying. We have no bypass authority, which means we can't go directly to Congress with funding requests, but we can educate Congress and brief Congress, and make sure the member understand the importance of research. Research without money is like a car without gas. And we know that not all things can be solved with money, but this is one issue that does require money.

The second commitment we make is the commitment to communicate on your behalf, and in support of your work, to the public, ensuring that the public knows as much as the public can know about this process. It is not going to help us if you were perceived to be a private group going off in a clandestine manner to pursue some secret agenda. We have responsibility through our public appearances, through our access to the media, to communicate with passion and clarity, the work of the TGDC to ensure that the country understands that while nine months may seem like a long time, and may not have much impact this year, that nine months is an aggressive amount of time, and that you're not dragging your feet, or taking this task lightly. We will do that to the best of our ability, and the communications link that exists between the EAC and NIST will, I think, serve you well.

Finally, we're committed to a partnership. We're not going to distance ourselves from you, thus leaving you out on a political limb to die. Nor are we going to attempt to micromanage you. We have a wonderful working partnership with NIST. We have complete confidence in the leadership of Dr. Bement, and we believe that this Committee is enhanced by the unusual degree of competence and credibility that NIST brings to the enterprise.

I have known government agencies all of my adult life, and without fear of contradiction, I can say this: The National Institute of Standards and Technology and Dr. Bement probably have as much

credibility as any government agency anywhere has in anything. And NIST has done a fine job, has distinguished itself as being capable, professional, competent, and diligent towards this task.

We are committed to a partnership with you. The partnership means we may sometimes disagree, we may make requests of you that make you uncomfortable, likewise, it means that we will fly together or die together, and that's our commitment.

I do have one favor that I need to ask of you, and in your binders, you'll find a report that's done by the Brennan Center for Justice and the Leadership Conference on Civil Rights. As you know, most of your work, if not all of your work, will focus on the nine-month mission to come back with recommendations, that we will then take to the Standards Board and Board of Advisors and vet with the public. However, you can appreciate that much of our work has to include a focus on what we can do to make a positive impact on the November 2004 elections. We have not been alone in our concerns about the quality of the elections' process and the effectiveness of the voting outcomes. This report was prepared at the request of the Leadership Conference on Civil Rights, which is a group that we met with early on. Dr. Bement and I talked about this. Our response to this report has been to say that we would like to ask the members of this Committee to take a look at it, and based on your experience, your expertise, give us some sense of whether or not you think there is any way you would like us to include this in the kind of guidance or options that we provide local elected officials. I say that because next week, we will begin the process of releasing a very comprehensive tool kit that has models and examples of best practices and administrative procedures for this November.

As we both solicit and receive information and input from organizations around the country, we need the fact that you are on our team now to contribute to our process as we deliberate what our options are. So, if you would take time over the next few days and read this report.

I'm not asking you to formally include this, Dr. Bement, in your deliberations, but because you are who you are, and you know what you know, and you do what you do, and now you're connected to us joined at the hip, we value your input, and before we respond to the contents of this report, that would be great.

In closing, we had this discussion at the Standards Board, and I'm sure the Vice-Chair wants me to say this, so I'll say it. At the end of this process, what many people question is this: Why should you do all this work to create standards, which at the end of the day are voluntary to the states? Why should you fly from across the country, give up your time and talent, to produce a document that is not mandatory?

HAVA uses some very interesting language. It uses standards language; it uses guidelines language; and it uses recommendation's language. We are committed as a Commission because we signed on knowing that we did not have regulatory authority, and that we could not mandate standards.

We all recognize today that every voting jurisdiction in this country has been waiting for guidance and waiting for resources to help that jurisdiction conduct free, fair, and effective elections. So we are confident that the voluntary guidelines process can work.

The fact is that down the road as we discover what went wrong then we'll make a recommendation to Congress.

In the meantime, we see our setting standards and offering them as guidelines as being really analogous to raising teenagers. If you're going to raise a teenager, you know that parents have standards, and then the kids take them as guidelines.

So having said that, some of us have been somewhat successful with that, we've negotiated then. And we believe that states and jurisdictions are waiting to work with us and to receive our guidance.

So having said that and being uncharacteristically 20 minutes early, I'd like to conclude by thanking you again, and I hope and pray that this process will create the America that all of us have assumed exists, and that can upgrade our democratic practice so that we can be the beacon of light, and the standard for voting for the entire world. Thank you.

CHAIRMAN BEMENT: Thank you, Chairman Soaries, and also other members of the Commission. You've not only charged us, but you've supercharged us. I hope we can live up to your expectations. I want to thank you for working with me and putting together this wonderful Committee. And I think with the teamwork that's already underway, we're going to make you proud of us.

I also especially want to thank Commissioner Degregorio for all the work that he's done with NIST and with members of our team in getting us to where we are today. It's really been a miracle in many respects that we now have this Committee that is empowered to vote and do work. And, in fact, a lot of it went together last evening. So thank you very much, Paul.

I think one or two people have come on the telephone since Dr. Soaries begin his remarks. I wonder if they'd take a moment and you could identify yourself, those who have joined us on teleconference.

MR. EUSTIS: Turn your mute back off.

MR. SCHUTZER: I am Dan Schutzer.

CHAIRMAN BEMENT: Yes, Dan, thank you.
Anyone else?

MR. EUSTIS: Turn the mute back on.

CHAIRMAN BEMENT: I guess to segue, I have raised eight teenagers, and I have to say that any guidelines that they might accept are totally discretionary.

Now at this time, I'd like to ask each of the Committee members in attendance to introduce themselves, speak briefly about their backgrounds, and also comment briefly on why they agreed to serve on the Committee. I would also ask that during the course of the day as we get into a discussion, to assist our stenographer, our recorder, and to be sure we get a clear transcript of our deliberations, if you would identify yourself as you make comments, that would be very great.

Paul, let's start with you.

MR. CRAFT: I'm Paul Craft. I'm Chief of the Bureau of the Voting Systems Certification in the State of Florida, and for the last 12 years, had the honor and privilege of being part of a very small group of individuals within the National Association of State Election Directors, who have been working as volunteers, and with great passion to attach what we're carrying forward today. It is frankly such a

thrill and honor to be here, that I'm rather humbled by the Chairman's gratitude for our service. There's really nowhere else I would rather be. I think this is probably the most important work in the nation at this time.

As many of you who know me know, I actually would like to push beyond the legal scope of this Committee. Florida very strongly believes, and has taken the position in the last 12 years, that existing standards should not be voluntary, they should be mandatory. Obviously, that's outside our scope, but we hope to work here and lay out good enforcement standards which Congress can bring at a later date, if they wish.

CHAIRMAN BEMENT: Let me interrupt for just a moment. Chairman Soaries, I did want to respond to your request to provide comments on the recommendations from the Brennan Center. Clearly, this is valuable input for our deliberations. It would be -- the recommendations here would be highly valuable in our considering some of the security aspect of voting. I would ask individuals certainly to respond to the request. We need to demonstrate that we can operate in real time, as well as by procedure. On the other hand, I would caution you that you would be responding as individuals, not as members of the TGDC, so this is your individual input. Thank you.

MS. QUESENBERY: My name is Whitney Quesenbery, and I guess I'm pretty honored to be in such experienced company. I guess I'm one of the voter volunteers. I got interested in this in 2000, like so many people did, a lot of people. I am the President of the Usability Professional Association, a trade association of people who work with industry and government making the products and web sites, and the regulations that we often use, easier for people to use and more effective for people to use.

In 2000, a lot of people got very excited about the issue of usability in voting, and I was one of the few people left standing as a volunteer. So we started an education process within our organization that covered some of the other human factors, just to keep members aware of what was going on. One thing led to another, and now we're getting with the IEEE Committee on the Usability/Accessibility section of that standard. I'm really glad to see that we're beginning to consider people, and not just machines as we think about voting, because it is ultimately a human process, and not a systems' process. I think of it as more than voting -- there are more than voters in that system. There are lots of people who were working around election officials who are candidates themselves. And all of those people need to be considered as we think about standards. So, I think that's all I have to say.

CHAIRMAN BEMENT: Thank you, Whitney.

DR. WILLIAMS: I'm Britt Williams from the State of Georgia, and I represent NASED on this Committee. You've got my bio in the materials that were sent to you, so I won't repeat that. I will say that this is the fourth body like this that I've been involved with to write standards for voting systems. I was a consultant for the FEC in the development of the standards in 1990, again in 2002. I'm on a board with the IEEE to develop standards. Those other three were non-funded. It was entirely voluntary. In 1990, it took us four years to develop a set of standards. In 2002, it took three years.

The IEEE project has been in business for three years, and it's not in any danger of closing any time soon. So, I'm going to be real curious to see what we can do with funding in nine months.

MS. DAVIDSON: My name is Donnetta Davidson, and I guess you can say elections have been my life, and I won't tell you how many years. I started out in the county. I probably am one of the very few people that was sent here that has been a county clerk, the Secretary of State, and a candidate.

And all of those things are very important with, you know, what we're doing. I was part of the birth of NASED, part of the birth of the original standards. And, obviously, my goal is to hopefully set standards that will improve the process as we always like to do; make it a better process of voting in the United States.

I think that nearly every state -- I know I fought in Colorado years ago to put the standards in where it was a mandate. They have to be approved by the independent testing authorities before we can even test them in our state. So I think many of the states have done this, and I think that's a -- if we can't get it where it's a mandate nationally, that leaves the states to move forward to do their own mandate. And I think that's a great thing that we ought to encourage it; Paul, I agree with you. So I look forward to it, and I feel it's a real honor to be serving with all of you here.

MR. BERGER: I'm Steve Berger. I'm here representing the IEEE. It's a great honor to be here, and it's an honor for the IEEE to be included. Professionally, I don't have a long history in elections. I certainly haven't served as an election official. Most of my career has been in product development, basically serving the function of advising management when a new design was ready to be introduced and marketed.

In many ways that's what we're about, helping voting officials know when equipment was ready for implementation. I say sometimes that I spent a lot of years breaking things and making it look like it was someone else's fault. Along the way, I served on the two Access Boards of advisory committees, and disability access is a particular interest of mine, and I'm gratified to see there's going to be a focus here.

I'd like to say in terms of the IEEE, and as much as Whitney said, I view my role as a conduit. There are a lot of people in this country, particularly in the engineering community, that want to contribute. I would just offer the invitation that I think it would be entirely appropriate for this Committee to ask different bodies of experts to lend a hand, to take specific assignments and maybe lend their expertise. In my experience, a lot of people want to be involved, and would be glad to serve in that way. We certainly view our effort as being part of this process and under what this Committee does and the EAC more generally.

MS. PURCELL: Thank you. Good morning, I'm Helen Purcell, and I'm also very glad to be with this Committee. My county is Maricopa County, Phoenix, Arizona, and we have a million three registered voters, and that requires a tremendous amount of administration putting together for the election. I have been an election official there for 15 years. I have seen some very good things happen. But then as a result of the controversies of the 2000 election, I think that we have all seen that we either could do a better job of the job that we do. We can also do a better job of educating the public as to what we do, and get a response back from them. It is a system that should be very user friendly. I don't know that we advertise that we are a user-friendly group of people, but we certainly need to do that. And I hope that with the work that we can do here, we can make some headway in a lot of areas.

MR. HARDING: Good morning. I'm J.R. Harding from the great state of Florida. Perhaps that's one of the reasons why we're here. I am a member of the Access Board. My life is not a voting expert. My perspective, is perhaps that of the disabled perspective. Most of my adult life and part of my adolescence, I started with trying to run away from whom I had become. But as I grew and matured, worked, labored, and learned, I realized this is part of who I am, and that through my adult life, I've really become a bit of a full-time advocate representing from the state of Florida, nationally and statewide, from transportation to work, labor, to educational issues. I just kind of feel my role in life is

pushing the envelope for independence and self-sufficiency in our world. And I think voting is a cornerstone of that self-sufficiency in terms of expressing and shaping our view of our America and our cities. It's from that vantage point that I'm glad to be here and offer what little bit I can to ensure that everyone has the opportunity to vote, and reliably. Thank you.

MR. ELEKES: I'm Jim Elekes. I should state in full disclaimer I am from New Jersey. I have three things in common with Chairman Soaries: We both reside in New Jersey; we both reside in Somerset County; and we are both debonair males. I am an associate college professor in public administration and policy. My experience in voting over the years has been to work to ensure that there is barrier free access to the polling places, as well as appropriate assistance at polling places, volunteers trained to assist persons with disabilities in exercising their right to vote. I have also worked as a beta tester for a number of organizations who produce software speech services, and Braille for persons who are low vision or blind.

As a representative for the U.S. Access Board, I share Mr. Harding's goal as the lynchpin. Voting is a form of expression, and the ability to proactively participate in one's community. And whatever contributions can be made, or input as a tester that I can make to ensure the standards are capable of meeting the diverse and specialized needs of persons with disabilities, as well as perhaps being a liaison to the blind and visually impaired community, I look forward to the challenge of meeting the goal of this Committee.

MS. MILLER: Good morning. I'm Alice Miller. I'm the executive director for the D.C. Board of Elections and Ethics. And let me first say I am the mother of two teenagers, neither of which accept my rules as guidelines or standards. From that, I have been working elections for about 17, 18 years. I started off in the legal field on the staff of the attorney general counsel of the elections board. Somehow or another, I ended up as executive director, and I'm still trying to figure that out. From that, what I've learned is that we've watched voters by all definitions. I've watched them as a candidate, watched them as a voter, watched them as a poll worker learning the process, and from that angle. I know that there has to be a comfort level with what everybody is doing to not only ensure the person's vote is counted as they have voted, and the poll workers are comfortable with ensuring that their instructions are where they need to be to ensure the voter's vote is also accurately done and accounted. I'm actually probably one of the least technical people on this Committee. I still question how you all thought it was a very good idea to place me here. So it's from that perspective that I am indeed honored to be here, and I do intend to give my all and to contribute what I can to help with the guidelines development in this process.

MS. TURNER-BUIE: I am Sharon Turner-Buie, director of elections from Kansas City, Missouri. May I start a little bit differently than everyone else by commending the Commission on your office space. I know for a commission to focus on transparency -- you certainly get that feeling as soon as you get off the elevator, you get feeling of transparency, which is so important in this process.

I am very humbled to be asked to serve on this Committee. It's a very intimidating thought because to be surrounded by engineers and technical experts with the science background, etcetera, etcetera. People don't normally associate that with elections administration, but it certainly is an important part of it, because we need it for the task that is at hand. I would like to say that as an election administrator, we had problems and concerns prior to Elections 2000. What Elections 2000 did, what the HAVA Act did was give us a voice. Now we not only have a voice, but we have an audience. And with that voice, I hope to be able to serve as a link between the architects of these voluntary voting systems standards and guidelines and, ultimately, the people that use these systems in the election.

Certainly the people that work on election day are crucial to the process and ultimately the voters. So it is so important that we remain focused on the ultimate users as we are surrounded by all of these engineers, scientists, and technical people so we can keep the human element close at heart. I would like to disagree with one member of the Committee, and that being Ms. Miller. She is not the least technical person here. I have that distinct honor. But hopefully we will be able to contribute some necessary input as we move forward.

MS. CALDAS: My name is Anne Caldas, and I represent the American National Standards Institute. Actually, that was a nice segue into what we do, because there are many experts in this country who populate standards writing organizations, including 200 that ANSI accredited, including IEEE. And I agree with Mr. Berger that many will be willing to assist, and I don't think we need to think about starting from scratch. American National Standards are developed in an environment that is open-balanced, fair, and characterized by due process. ANSI welcomes the opportunity to participate in this project, and to help the Election Assistance Commission and the TGDC in the areas both of standardization and conformity assessment. I'm honored to be here. ANSI is willing to give whatever resources we can to help implement the Help America Vote Act. Thank you very much.

CHAIRMAN BEMENT: Well, I'll bring up the rear. I'm Arden Bement. I'm the Director of NIST, and acting Director of the National Science Foundation. And people ask me all the time how can you carry out both those responsibilities, and it's because there's a hidden secret, and that is that NIST excels in spite of it's director. It not only has great breadth but also great depth. I think one of the very best decisions I've ever made was to appoint Dr. Semerjian as deputy director of NIST. He has stepped in immediately without a loss of movement, and has done a superb job in continuing the day-to-day operations of NIST. As far as my enthusiasm in chairing this Committee, it's both a learning experience as well as a human experience. A learning experience because this is very important as well as a challenging area to be working in at the moment. It's a human experience because I've got enough time to meet people who have a passion about voting and want to improve the system, and recognize that voting is the bedrock of our democracy. It's that citizenship and that sense of civic responsibility that I've tried to live up to in my career, and I just feel very proud to be associated with all of you.

You've heard a lot of great words about NIST, and I want to call on Allan Eustis in a moment to tell you all the great assistance they're going to provide when you carry on your impossible assignments over the next nine months.

MR. EUSTIS: Could we ask Dr. Schutzer if he's still with us, that he give us a little back ground?

CHAIRMAN BEMENT: I'm sorry. Dan, are you still with us?

DR. SCHUTZER: I'm still with you. I can only be on for another hour or so. I apologize for not being with you. I'm pleased to be -- I believe I have no voting experience except as a voter. I believe that my main background and interest was that I worked with banking and I worked in many of our systems that you assume are kinds of technologies, including our ATM technology. I worked a long time in many different engineering and standards organizations. And I've even worked for the government in a previous career there in the military defense systems. And most recently, the last position I had there, which is on the opposite side of the coin, I was the technical director for Naval Intelligence. So I know a little bit about how to break and penetrate systems, as well as how to protect them. I really look forward to what sounds to me like it's going to be a fascinating and very important function.

CHAIRMAN BEMENT: Thank you, Dan. I now call on Allan Eustis, and then Craig Burkhardt, and then Alice McKenna.

MR. EUSTIS: Thank you, Dr. Bement. Good morning. I'm Allan Eustis. I'll be short, because I am. Along the lines of the short remarks that were made earlier, I would like to say that I learned and you will learn with Commissioner Degregorio and myself sharing this trait in common, that you don't mess with the short people. But other than that, I am extremely gratified that we are well ahead of schedule. I would recommend to the Chair that after we finish our remarks, myself, Mr. Burkhardt, and Ms. McKenna, that we break at that time, which will probably be about 20 of or a quarter to 11. And using discretion, I will extend the break from 30 minutes to 40 minutes.

For the public in attendance, there is a cafe downstairs in this building. And there's a Subway Sandwich Shop, if you walk over a block; there's a McDonald's too, I think. Basically, if you want to go to Subway, you can walk to the corner of 12th, go south on 12th, and it's on the left. Either buy your food and eat it there, or bring it back. For all of the members of the Technical Guidelines Development Committee who have given us your names, do not get up from the table when we break because we need to collect money from you. The days of the ten cent lunches when I went to grade school are gone, unfortunately. If it was not so, I would pay for it all.

I thank you all for being here. I am going to use a term that Dr. Bement and Commissioner Degregorio used, this is, this is really a dream team. I couldn't think of a better group of individuals with diverse talents as yours to come together for problems which almost seem insoluble. Hopefully we will come up with recommendations. Along that line, I do believe that in nine months you will give birth to recommendations, but that will be unusual in the fact that we will not have to involve gynecologists in the process, that I'm aware of. So we will do our work; we will make the Chairman and the Commissioners, I hope, proud of our product. I believe we will. And myself and Craig Burkhardt are here to assist.

But let me say that the reason that this meeting is taking place as smoothly as it is is because of my assistant, Mary Floyd, who you'll all get to know quite well. If Mary hadn't been here, we wouldn't be here. So thank you, Mary, from the bottom of my heart. It really is amazing that we did this in less than three weeks.

I would like to thank Paul Degregorio, and say that I've enjoyed working with you, and look forward to continuing our work relationship. I've enjoyed working with all the Commissioners, which goes back to January actually, when he came to our symposium. So I think we will move forward and we have made great strides, and we have a lot of very important business to accomplish.

By the way, for the public that's here, and for those not in attendance but reading the transcript, early next week -- and you'll find in your packet a template for our Technical Guidance Development Committee web page. The website is **http://vote@NIST.gov/** *and this is case sensitive, capital* **TGDC.htm**. On that page will be the charter, members, public testimony, hearings of transcripts, comments and position statements that have been submitted through **voting@NIST.gov**, which is the e-mail address along with any other relevant news in an effort to be totally transparent as we move forward.

This afternoon, we will discuss a little bit about the subcommittees, the potential subcommittee structure that may be adopted by this Committee. I want you all to know that there will be subject

matter experts available to each Committee from NIST, and some of those people you will hear from this afternoon. And again, I think a lot of where we are right now is from the starting position. With a lot of background knowledge it's due to folks like Dr. Laskowski, David Alderman, Mark Skall, Lynne Rosenthal, and Jeffery Horlick, and you'll meet some of the others, perhaps during the break you'll get the chance to meet them as well if you haven't. We are here to assist in any way possible to officially accomplish the tasks that we need to accomplish.

I appreciate the trust of both Dr. Bement and Dr. Semerjian in my work. It's made my life a lot easier, and I think that we'll continue to move forward and do quite well. The final person -- actually they're two people, Dr. Zevin recently retired, and I think she's met many of you on the Committee. It's been a lot of work to lay the foundation for where we are. I recognize our General Counsel, as appointed by Dr. Bement, so I call on Craig to make a few brief remarks, and then keep this moving. I thank you for all the help he has given me.

MR. BURKHARDT: Thank you, Allan. We're now going to go into a brief presentation on the legal aspects of your service on this Federal Advisory Committee. I hope that this will actually be my first and last presentation. I agree with the Chairman because what we want to do is we want to keep a lawyer in on the procedural things, in the background, which would allow you to move forward very very deliberately in technical deliberations, then eventually the writing of your policy and the proposals for any overall agenda.

Essentially, as a Federal Advisory Committee, you are in the business, if you will, to provide advice to the Federal Government and senior officials in the Federal Government. Shortly, Alice McKenna, who is an expert on Federal Advisory Committee laws is going to give you a presentation on some of the do's and don'ts on how to conduct yourselves as a Committee, and as subcommittees, which we'll be talking about in a moment. They're also personal activities. There are a lot of Federal Advisory Committees in existence and generally speaking they function without any legal difficulties or complications. So, we will try to be very client-centered in managing your activities as opposed to erecting barriers in your way.

Keep a couple of things in your mind. Dr. Bement has agreed to present to you the subcommittee recommendations, where he has to split this group up into three-working groups, subcommittees, which will function over the next six months. A couple of things to keep in mind as we're getting together in an overall preview, such as we have today. We are regulated by certain rules that require us to give public notice in the Federal Register 15 days in advance. We're going to be talking about subcommittees. The subcommittees will typically be four or five people. One thing we need to understand about the subcommittees right from the get-go is they have no independent authority. These are essentially going to be smaller working groups that are going to study specific subject matter issues and bring proposals back to this group. So this is the only group that actually has authority to vote and adopt proposals, which would eventually go back to the Federal Election -- to the Election Assistance Commission and it's members.

The subcommittees will operate slightly differently than this Committee. When I say slightly differently, all I mean is that notices, which will be given in sometimes immediate circumstances. The intent is to keep the subcommittee's activities very transparent and very public to properly serve the vendor community, the election administration community, as well as the testing community and the press, because we want to be open. That's the preference of the Election Assistance Commission as well as NIST. We hope that it will be in your preferences as well.

A couple of the things that Alice talked about that you will want to keep in mind is that the subcommittees will have a little flexibility. So these will be smaller working groups, but you'll have to be somewhat more nimble, you'll need to react quickly to information that comes, and the ability to have meetings by telephone conference and so forth. I want the press and the public who are listening in to know that we will be giving notices by web site. And the web site as Mr. Eustis mentioned is **vote.NIST.gov**, and that could mean that there will be duplicate postings of all notices of subcommittees' activities on the Election Assistance Commission web site, which is **www.EAC.gov**.

We will not be unfair to the public at large or the press. We will give as advanced notice as we can. But I do advise those of you who are in the room, and those who might be listening in who have great interest, to regularly check in on those web site postings, keep track of what will be going on over the next six months, which will essentially be subcommittee hearings, subcommittee deliberations, and eventually subcommittee formulation of proposals, which will come back to this overall Committee probably in about six months.

As Dr. Bement will mention, we probably won't be getting back together again as an overall Committee until sometime in January or February of next year. So I will not go into any other details on the subcommittees because Dr. Bement will be presenting a detailed proposal to you this afternoon. But those are the things that I want you to be aware of as you listen to Ms. McKenna's presentations on the full Committee, which we comprise, and the subcommittees, which will be comprised.

Alice McKenna will now come forward. She is a senior attorney at the Department of Commerce. She's an expert on Federal Advisory Committee activities and the regulations that govern the activities of those committees.
Alice?

MS. MCKENNA: Thank you, Craig. Good morning. As Craig said, I'm Alice McKenna from the Department of Commerce Office of General Counsel. We are the parent agency to the parent agency of NIST. I have a handout that's going around the room. I'll please ask the DFO to take two copies because one copy is going to need to go in the public file, the other is going to be maintained on this Committee as is require by the FACA.

While Craig is also handing out the handout, I'll tell you that I have served as an election officer, and I know what it's like to spend 14 hours on your feet, and then at the end of the 14 hours, have to do math. And while NIST is a scientific and computer and mathematics based organization, I have to tell you that as an attorney for the Department of Commerce, I am not. I went to a large mid-western university that specialized in electrical engineering and computer science, and I majored in political science and German literature. If I had been any good in math at all, I would have gone to the electrical engineering department and had myself a much higher paying job than I have as a person with two Bachelor's of Arts Degrees from the University of Illinois.

You all now have a handout, and I will turn your attention to that. I'm going to hit the highlights. These are some basic bedrock principles that define how advisory committees work under the Federal Advisory Committee Act, which is a statute I've come to specialize in in the last 13 years or so at the Commerce Department.

The main principle of any advisory committee is it is simply that. It is advisory only. Most committee's, unless otherwise directed by Congress, have no operational functions. They don't make and implement government decisions. They advise the government and the government relies on the

advice in one way or another. If there is any question about whether a committee is operated in an advisory capacity, or whether it is operating within the scope of its charter as dictated by the statute, those questions should be referred to the designated federal officer, who will then contact the relevant government officials.

As I just stated, your advisory duties are sort of limited by the statute. The general purpose is to assist the Executive Director of the Election Assistance Commission in the development of voluntary voting system guidelines. The Committee is statutorily directed to provide its first set of recommendations to the Executive Director not later than nine months. That work's out to April 2005. After that, the Committee shall cause to have published any guidelines on voluntary voting systems that are adopted by the Commission. Your role as members, you're appointed, you serve at the pleasure of the Commission and the Director of the National Institute of Standards and technology.

There is one important don't. You do not advise Congress or engage in what we call grassroots lobbying. These activities are first, outside the scope of your charter, and for us, for the government and agencies involved, may also implement other prohibitions against grassroots lobbying. None of this, however, applies to what you do as private citizens. I'm talking strictly in your capacity as Committee members.

There are two kinds of Committee members under the ethics statues. Some of you are appointed as "Special Government Employees" because you serve as an expert in an individual capacity. Others of you have been, however, appointed in what we call a "representative capacity" to bring to the table the views of a particular group or organization. The Commission -- the Election Assistance Commission is responsible for identifying who is who.

The ethics rules, I'm not an ethics' attorney. I have a short summation of how the ethics rules apply to the two different groups. "Those who are serving in an individual, expert capacity, are Special Government Employees, and are subject to the Federal criminal conflict of interest statutes and rules." This is summarized very generally. "As such they are prohibited from participating in particular matters that may have a direct and predictable effect on their financial interests or on those of a spouse, minor child or general partner. They also cannot be registered as a foreign agent, and I'm sure you all know that. It's a requirement -- when somebody works for a foreign government or a wholly-owned subsidiary of a foreign government, there's a requirement to register with the Justice Department and with the government under the Foreign Agents Registration Statue.

People who serve in a representative capacity are not subject to criminal conflict of interest statues; nevertheless, they are bound by general rules including the prohibition on use of government affiliation, resources or information.

Advice on any questions on standards of conduct matters for both Special Government Employees and representatives will be provided by the Election Assistance Commission, and through the offices that support it.

Meetings of your Committee. There is a core requirement in your charter. The Committee shall not act in the absence of a quorum or a majority of the members, not having a conflict of interest in committee issues. If you have a conflict of interest, you must recuse yourself from discussion of the matter. A quorum is defined as a simple majority of all people who don't have a conflict. Half will be enough.

Committee meetings only occur when called by a federal officer, usually the DFO. All meetings are open to the public, and public notice must be given to the public 15 days in advance, including web site notices. While the Federal Advisory Committee Act provides for limited exceptions to the open vetting requirement, those have to be decided on advice approved by the government agency involved.

Meetings should allow a reasonable opportunity for the public to make comments. The public may also file written statements with the Committee at any time.

All materials that are made available to the Committee, my handout prepared for the Committee, handouts prepared by the Committee, minutes and transcripts of meetings will be filed in files that are kept by the government and available to the public at any time upon request. This would be like in a reading room format. An exception to that would be if it's material that's exempt under the Freedom of Information Act.

Meetings can be in person, via videoconference or conference call. The crucial element for things like video conference, and conference calls, is that the public must be afforded access to the deliberations by having a site where the public can attend, a room where the public can come in and listen to a speakerphone or something like that.

There are some things that don't rise to the level of a meeting. One of those is where Committees members meet and have a conference call to compare schedules, things like that. Those are administrative, housekeeping matters, and are not necessarily required to be public.

We'll talk briefly about subcommittees that may be necessary to accomplish the Committee's function. Subcommittees are a very important function of the Committee. Subcommittees, again, are sort of a pyramid being the start basically of the pyramid, feeding into the middle level, being this Committee, and then the top being, the government agency. Subcommittees that meet to advise the government directly may be in violation if they haven't had their meetings notices 15-plus days in advance in the Federal Register. The Committee must deliberate on what the subcommittee gives them to make sure that it complies with the FACA prior to advising the government based on the subcommittee's work. Committees or subcommittees that contemplate using people that are not at the table today, but other people, we would have to look at that separately.

Any documents that are provided to the Committee by the subcommittee, also have to go into the public file.

Some purely administrative matters that are all that's standing between you and a break. Administrative support for the Committee is provided by the Election Assistance Commission.

As NIST representatives, you know, members are not compensated for their services, but travel, including per diem in lieu of subsistence, may be paid for upon request. All Government-funded travel must be at the Government's request and must involve the provision of a direct service to the Government.

Election Assistance Commission attorneys provide legal advice to the Commission, including the DFO, with the exception of standards of conduct issues. The government attorneys do not serve as legal advisors to the individual Committee members, we only advise the Committee as a whole.

If you have any questions about what to do, or if there is something that comes up, please, direct your questions to the Committee's Designated Federal Officer. If that person can't answer you on the spot, that individual is invited to contact Craig or myself to get the answer, and that DFO will then report back to you.

At this time do you have questions?

MR. ELEKES: You note that the documents would be placed in a central location. Should a person with a disability require alternative format, is there consideration to provide those documents in alternate electronic format such as audio or Braille?

MS. MCKENNA: I'll refer that question to Allan Eustis.

MR. EUSTIS: Yes, we will provide that through my office. You can make the request through e-mail, **voting@NIST.gov**, or through any of the Commissioners or myself. We will provide that in a commonly accepted format, either disk or document. We will do that in whatever is recognized as the most useful format for that, and we'll take recommendations as well on other formats.

CHAIRMAN BEMENT: J. R.

MR. HARDING: Thank you, Mr. Chairman, J.R. Harding. A follow-up on that. Perhaps on the bottom of all of our agenda's, for alternate format needs, I request that a phone number and a contact person would be identified to make those formal requests.

MR. EUSTIS: So noted.

MR. HARDING: I've got that language for you.

CHAIRMAN BEMENT: Any other questions by members?
While we've earned ourselves a little bit of slack time, we do have members of the public here today. I would like to invite them, if they would, to introduce themselves. Let's just start in the front row and just move to the right and to the back.

PAUL WOLTE: Paul Wolte, Sequoia Voting Systems.

DAVID BAQUIS: David Baquis from the staff of the Access Board. I'm here to provide support to Mr. Harding.

DR. LASKOWSKI: Dr. Sharon Laskowski from NIST.

MR. ALDERMAN: David Alderman from NIST.

MR. SKALL: Mark Skall from NIST.

MS. ROSENTHAL: Lynne Rosenthal from NIST.

MS. CHIN: Candace Chin. Senate.

MS. SCHNEIDER: Elizabeth Schneider

MR. AUBLE: Daniel Auble, Common Cause.

MR. WACK: John Wack, NIST.

MR. WHITE: Douglas White, NIST.

MR. KELSEY: John Kelsey, NIST.

MR. SMOLKA: Richard Smolka, Election Administration Reports.

CHAIRMAN BEMENT: Thank you very much. Well we have now earned our break. It's a quarter to 11. We will reconvene at 11:30.

(Recess from 10:45 to 11:30)

DR. RIVEST: In terms of my business of serving on this Committee, I think that voting is a great national important civic duty. It's my duty to help participate on my Committee. (Inaudible).

CHAIRMAN BEMENT: Thank you, Ron. I would like to call your attention to a tab in your book called "Organization." And what we're going to be talking about for the next 30 minutes or so is organizational recommendations, which is essentially our procedural roadmap of how we're going to be conducting business. And I'll go through this piece-by-piece so we'll have an opportunity to have discussions as we go.

The first part, we pretty well covered this morning all the way through the first paragraph.

The second paragraph under Committee structure, there's a recommendation that the business of the TGDC is to accomplish the three subjects, specific subcommittees comprised only of TGDC members. Each subcommittee will have a member chair. For technical assistance, each subcommittee will have a NIST executive, familiar with the subject matter assigned to it. I propose that such committees are the Subcommittee on Security and Transparency; the Subcommittee on Human Factors and Privacy; and the Subcommittee on Core Requirements and Testing.

In the back pocket of your notebooks is a signup sheet which briefly describes the recommended scope of each subcommittee.

MR. HARDING: Mr. Chairman, do you require a motion for those three subcommittees?

CHAIRMAN BEMENT: We're going to get to that in a little bit. So I would ask you, as we go along if you're already familiar with this, go ahead and indicate your personal choices.

Now, because of financial disclosure forms for TGDC members have not been totally completed by this meeting, it is not appropriate at this time to announce subcommittee chairs, but that will be done very shortly. And in selecting the members for the subcommittee, I'll pay particular attention to your first choices, try to get as much distribution as we can.

Any comments or discussions on that part of our Committee structure?

All right. Going on to Committee operations. The duties of subcommittees will be to engage in information gathering and analysis, including but not limited to conduct that probably carries the analysis of existing best practices, specifications, and standards. As you know, there is a body of standards already in place. Subcommittees will prepare proposals to the entire TGDC, and only those (inaudible) will be forwarded to the Election Assistance Commission, subject to prior constraints.

The subcommittees' meetings can occur in person or by telephone conference. Subject to availability of funding essential subcommittee activities will be accomplished in concert with the staff. The National Institute of Standards and Technology will provide technical assistance, including first, the conduct of public hearings to accept oral and written testimony. Second, the acceptance of analysis and written materials by NIST web capabilities. Third, the survey and analysis of applicable best practices, specifications, and standards. And, actually, identification of areas requiring writing and viewing of a revised best practices, specification, and standards. And the prioritization projects. Writing proposals, best practices, specifications or standards, and communication of project selection and progress to the TGDC.

Subcommittee work product will be shared on a regular basis will all TDGC members, and subcommittee activities and communications must be in compliance with legal requirements as approved by the Chair.

Now, some of you have broad interests in almost every activity that the Committee is engaged in and may like to be active on more than one subcommittee, and we can certainly accommodate that, subject to your availability. But recognize that any products from the subcommittees will be fully vetted and discussed at the Committee level before it can go forward.

Also, since we will be making arrangements for the public to be involved, either by teleconference or by other means, such as in other languages that monitor subcommittee activities, if you so wish. So I think there will be ample opportunity to maintain on an ongoing basis, the familiarity with all activities of the Committee, even though, we have to parse it into these three subcommittees in order to carry out the work of the full Committee.

Having said that, are there any other comments or questions you might have on the function of the subcommittees? If not, at an appropriate time and this will likely be January/February 2005, the TGDC will hold a multi-day session during which work product of the subcommittees will be presented in the form of a series of resolutions.

The resolutions will be will debated for potential amendments and adoption. Adopted resolutions will thereafter be referred to NIST staff for technical assistance and clean up. And NIST staff will return all adopted resolutions, after providing technical assistance and clean up, to the TGDC for final review and approval.

In April of 2005, adopted resolutions and related material will be presented to the EAC Executive Director in the form of the statutorily mandated first set of recommendations.

Any comments or questions on that?

Work product form and priorities provisions with HAVA effectively require the TGDC to submit the first set of recommendations to the EAC Executive Director in April of 2005. The form of the recommendations will vary for each subject matter, depending on the existence of current best

practices, specifications, or standards. For example, some products may consist of reviewing quality to test the standards already developed by other organizations.

Recommendations related to such projects will consist of suggested standards, capable of immediate implementation. The subject varies such as human factors, where there are viewing systems specifications or standards related to voting systems. Recommendations may consist primarily of best practice guidelines and protocols for validation of independent testing and government testing activities.

And going on, HAVA requires election authorities to be in compliance with certain requirements in January 2006. I recommend to the TGDC and its subcommittees, your first priority projects that will be useful to the manufacturing testing laboratory and election administration communities. In other words, that's a caution that we need to stay focused and prioritized, and not take a frontal approach to the whole field, but perhaps approach it by segment.

If there are any general comments or additions or corrections to these procedures, we can take these up now or during the time when we entertain motions. So let's move on.

I would like to entertain a motion that three subcommittees be formed for gathering and analyzing information --

MR. HARDING: So moved.

CHAIRMAN BEMENT: Let me read the whole motion. The subcommittees shall be comprised only of TGDC members. The subcommittees shall propose resolutions to the TGDC on best practices, specifications, and standard. The subcommittees shall be named: Security and Transparency, Human Factors and Privacy, and Core Requirements and Testing.

Do you wish to move that?

MR. HARDING: Yes, I do.

CHAIRMAN BEMENT: We have a motion. Is there a second?

MR. ELEKES: Second.

CHAIRMAN BEMENT: We will take a roll call on those motions. If you will read the roll.

MR. BURKHARDT: Okay. We will designate this as Committee Resolution Number 1. I will repeat the motion for purposes of the court reporter to check her record.

The motion is as follows: That three subcommittees be established to gather and analyze information. The subcommittees shall be comprised only of TGDC members. The subcommittees shall propose resolutions to the TGDC on best practices, specifications, and standards. Subcommittees shall be named: Security and Transparency, Human Factors and Privacy, and Core Requirements and Testing.

I will now call the roll call. I will only be calling the names of people whose financial disclosure documents have been approved.

You will answer "aye" or "nay" or state if you belive you have a conflict of interest.

Dr. Bement?
CHAIRMAN BEMENT: Aye.

MR. BURKHARDT: Davidson?
MS. DAVIDSON: Aye.

MR. BURKHARDT: Miller?
MS. MILLER: Aye.

MR. BURKHARDT: Purcell?
MS. PURCELL: Aye.

MR. BURKHARDT: Harding?
MR. HARDING: Aye.

MR. BURKHARDT: Elekes?
MR. ELEKES: Aye.

MR. BURKHARDT: Caldas?
MS. CALDAS: Aye.

MR. BURKHARDT: Berger?
MR. BERGER: Aye.

MR. BURKHARDT: Williams?
MR. WILLIAMS: Aye.

MR. BURKHARDT: Craft?
MR. CRAFT: Aye.

MR. BURKHARDT: Quesenbery?
MS. QUESENBERY: Aye.

MR. BURKHARDT: Mr. Chairman, that's 11 yes votes, no nay votes. I believe that you can declare that as having been adopted.

CHAIRMAN BEMENT: I declare that the resolution has been adopted.

I would like now to entertain a motion that the Chair survey the interest of TGDC members, and thereafter appoint members and chairs of the subcommittee.
Is there a motion?

MR. BERGER: So moved.

CHAIRMAN: Is three a second?

MS. PURCELL: Second.

CHAIRMAN BEMENT: Any discussion on the motions? If not, please call the roll.

MR. BURKHARDT: This will be designated Committee Resolution Number 2. I'll repeat for purposes of the court reporter, the motion at this time:

That the Chair survey the interests of TGDC members, and thereafter appoint the members and chairs of the subcommittees.

Roll call. Bement?
CHAIRMAN BEMENT: Aye.

MR. BURKHARDT: Davidson?
MS. DAVIDSON: Aye.

MR. BURKHARDT: Miller?
MS. MILLER: Aye.

MR. BURKHARDT: Purcell?
MS. PURCELL: Aye.

MR. BURKHARDT: Harding?
MR. HARDING: Aye.

MR. BURKHARDT: Elekes?
MR. ELEKES: Aye.

MR. BURKHARDT: Caldas?
MS. CALDAS: Aye.

MR. BURKHARDT: Berger?
MR. BERGER: Aye.

MR. BURKHARDT: Williams?
MR. WILLIAMS: Aye.

MR. BURKHARDT: Craft?
MR. CRAFT: Aye.

MR. BURKHARDT: Quesenbery?
MS. QUESENBERY: Aye.

MR. BURKHARDT: Mr. Chairman, the voting is 11 ayes, 0 nays. I believe you can declare Committee Resolution Number 2 passed.

CHAIRMAN BEMENT: I declare that Resolution Number 2 passed.

I would like now to entertain the motion that resolutions prepared by subcommittees be considered by the TGDC. Resolutions adopted by the TGDC shall be referred to NIST for technical assistance and editing. Upon the return from NIST, the TGDC shall review the resolutions to confirm they conform to its intent.

MR. HARDING: I would move that.

CHAIRMAN BEMENT: Okay. There is a motion.
Is there a second?

MR. ELEKES: Second.

CHAIRMAN BEMENT: Any discussion? Very well, please call the roll.

MR. BURKHARDT: This will be designated Committee Resolution Number 3. I will repeat it for purposes of the court reporter. It is designated as follows:
The motion is that: Resolutions prepared by subcommittees be considered by the TGDC. Resolutions adopted by the TGDC shall be referred to NIST for technical assistance and editing. Upon the return from NIST, the TGDC shall review the resolutions to confirm that they conform to its intent.

Roll call. Bement?
CHAIRMAN BEMENT: Aye.

MR. BURKHARDT: Davidson?
MS. DAVIDSON: Aye.

MR. BURKHARDT: Miller?
MS. MILLER: Aye.

MR. BURKHARDT: Purcell?
MS. PURCELL: Aye.

MR. BURKHARDT: Harding?
MR. HARDING: Aye.

MR. BURKHARDT: Elekes?
MR. ELEKES: Aye.

MR. BURKHARDT: Caldas?
MS. CALDAS: Aye.

MR. BURKHARDT: Berger?
MR. BERGER: Aye.

MR. BURKHARDT: Williams?
MR. WILLIAMS: Aye.

MR. BURKHARDT: Craft?

MR. CRAFT: Aye.

MR. BURKHARDT: Quesenbery?
MS. QUESENBERY: Aye.

MR. BURKHARDT: Mr. Chair, the votes are 11 yes, 0 no. I recommend that you declare the resolution has been adopted.

CHAIRMAN BEMENT: I declare Resolution Number 3 is adopted.

Next, I'd like to entertain the motion that adopted resolutions and appropriate explanatory materials comprise the "first set of recommendations" mandated by the Help America Vote Act.

MS. DAVIDSON: So moved.

CHAIRMAN BEMENT: There's a motion.

MR. HARDING: Second.

CHAIRMAN BEMENT: Any discussion on this motion? If not, call the roll.

MR. BURKHARDT: I'm designating this motion as Committee Resolution Number 4. The motion for purposes of confirmation for the court reporter is as follows:

Adopted resolutions and appropriate explanatory materials comprise the "first set of recommendations" mandated by the Help America Vote Act.

Roll call. Bement?
CHAIRMAN BEMENT: Aye.

MR. BURKHARDT: Davidson?
MS. DAVIDSON: Aye.

MR. BURKHARDT: Miller?
MS. MILLER: Aye.

MR. BURKHARDT: Purcell?
MS. PURCELL: Aye.

MR. BURKHARDT: Harding?
MR. HARDING: Aye.

MR. BURKHARDT: Elekes?
MR. ELEKES: Aye.

MR. BURKHARDT: Caldas?
MS. CALDAS: Aye.

MR. BURKHARDT: Berger?

MR. BERGER: Aye.

MR. BURKHARDT: Williams?
MR. WILLIAMS: Aye.

MR. BURKHARDT: Craft?
MR. CRAFT: Aye.

MR. BURKHARDT: Quesenbery?
MS. QUESENBERY: Aye.

MR. BURKHARDT: Mr. Chair, the votes are 11 yes, 0 no. I recommend that you declare Resolution Number 4 as adopted.

CHAIRMAN BEMENT: I so declare.
That completes the formal resolutions.

There's time now for discussion of the major issues and timelines in our road map and anything else that you may wish to discuss or any other motions that you may want to put forward. According to our agenda, I think the prioritization time frame in terms of the three most important recommendations is fairly within the next nine months when we will have our first set of preliminary recommendations, and that will be a priority effort. But then, of course, ongoing, there will be activities toward that up to and beyond 2006. There may be some discussion about that.

As far as considering all aspects of voting (inaudible) before we post voting. As well as the interplay between people, technology, and process there may be some discussion on that. What do we mean by holistic approach? The phase and (inaudible) of our work plan, which is pretty well laid out in the organization right now. If you'd just (inaudible) and then any next steps that might be of interest to the Committee. In some respects I think that the rules of engagement were pretty well covered this morning as far as the requirements under the Sunshine Act that we can take up any questions then as well. And following our discussion, we will then begin our background briefings this afternoon. Is there anyone who may wish to entertain any of these segments?

MS. CALDAS: I would just like to offer since there are going to be subgroups, ANSI does have a database of existing American National Standards and standards that are not American National Standards but that are recognized. We can certainly make that data available and produce specific reports, depending on the area of interest of the subcommittee, so we can identify standards that are existing or in process. And I would like to make that offer across to all subcommittees, since I will be on one and there will three.

CHAIRMAN BEMENT: Thank you very much.

MR. HARDING: Mr. Chairman, J. R. Harding. In our motion 3 as well as 4, we spoke to specific timelines, January/February of 2005, April of 2005, in terms of the deliverable to this group. Related to the deliverable perhaps of a work product in a subcommittee, are there any timelines/expectations or just in that January/February time frame and again in that April time frame?

CHAIRMAN BEMENT: The only thing that comes to mind J.R. Is that I think it's important that we get as much up on the website as early as we can in terms of gaps that we can identify in existing

standards which need to be addressed. Because normally in the standard development process and what you're talking about is 12 to 18 months of effort on the flip side.

MR. HARDING: Yes.

CHAIRMAN BEMENT: So that getting the standard development organizations attuned to the thinking of the Committee earlier would be very helpful. Clearly in your January meeting, when we formulize our recommendations, that will also be an important stage to help us through that process. If there are questions that occur to you as we go along throughout the afternoon, and as we hear the NIST presentations, we will take time to have a discussion.

Oh, yeah, Steve.

MR. BERGER: I might just offer a thought for our groups. I think one of the things we need to be conscious of is the time required for other parties to implement this. One of my particular concerns, given my background is, the time vendors would need to respond to the direction we might take. So in some of the areas that I know we will being addressing as soon as we could identify the direction that we will address them, so the vendors could start doing background and have things like information on usability, information on reliability of the products and process along with the speed they will need for ultimate implementation. That's exactly what you said that making sure that we signal that on the web sites so outside parties can start making their points.

CHAIRMAN BEMENT: As we get to the NIST briefings, which will be pretty much on the procedures for development of standards, any question that you might have on how performance based standards are developed as compared to process standards, product standards, any other kind of standard and, basically, we will try and enter into that discussion. So why don't we start with the first presentation, which will be by Sharon Laskowski who did a lot of the yeomen work.

MR. HARDING: Mr. Chairman, is this found within our background tab or is it still --

CHAIRMAN BEMENT: Yes, it's in the background.

Sharon was lead author of NIST HAVA Mandated Human Factors Report to Congress. And she's also a scientist for NIST Information Technology Laboratory. During her briefing, she'll discuss the findings of her report, "Improving the Usability and Accessibility of Voting Systems and Products."

DR. LASKOWSKI: Allan, how do you want us -- do you want us to stand here for our presentations or?

MR. EUSTIS: Yes, maybe if J.R. doesn't mind if you put your stuff on the table; is that right?

DR. LASKOWSKI: And how much time, now that we're on a slightly different schedule? I could try to keep it to 10 minutes or an hour. MR. EUSTIS: I would say try to keep it to 15 minutes, and then if you can finish earlier than that, there could be time for some questions from the TGDC.

DR. LASKOWSKI: Okay. I'm going to read the slides for anyone that might have vision problems and describe any diagrams. Does anyone in the audience need to look at me while I'm speaking? If so, feel free to move or just give me a cue so that I can be sure to be looking towards you. Okay.

Let me first just take off on the running joke of this morning, I have three teenagers, now that my son just turned 13 two weeks ago, and they view standards just as guidelines. But what I found is critical that they need some notion of how I'm going to evaluate their performance against those standards and guidelines, and that's sort of the theme in probably not just my talk, but in the other NIST talks that you'll hear about.

I'm talking about improving the usability and accessibility of voting systems and products based on what was put together in the Human Factors report. Okay. When we talk about human factors, it's important to look at all the users in this system. And I've got this diagram called "Voting Echo System" that was developed at a workshop a few weeks ago at the Usability Professional Association on Voting Systems that had about 14 people, a rather international crowd. That was a day workshop. It was very productive, but one of the first things we did is sit down and say, okay, who do we have to be concerned about? I think this approach to who are the users of the voting system is important not just for the usability and accessibility, but also when you look at any aspect of the system, security, elsewhere. Any implementation has to be evaluated in terms of the user of the system, if it's going to work properly, have people have confidence that it's working. In the middle circle, we have voters, of course, because they're the critical user here. We also have poll workers and around the perimeter of that we've got voter registration workers, challenger judges, observers, warehouse workers, support staff, election officials, postal workers, if there's absentee, to be delivering absentee, etcetera.

And then around the outside perimeter, we've got voter advocacy groups, elected officials, legislators, the press, candidates, vendors. All those people are part of a voting system, and we need to keep that in mind as we design and develop standards that are testable. So just to set the stage, the human factors usability perspective on voting systems with respect to the voters is comprised of the cognitive and physical nature of the voters, the physical environment, the psychological environment, the voting product itself. And usability is determined by the demands of the system and the voters ability to perform under those demands.

Now, do you know how to measure accessibility and usability? There are a couple of definitions here. Accessibility is the degree to which the system is available to and usable by individuals with disabilities. So not just access but usability, can they actually cast a vote the way they intended if they have a disability, or a language issue? Usability -- this is the standard definition -- is a measurement of the effectiveness, efficiency, and satisfaction achieved by a specified set of users performing specific tasks with a given product. Standard metrics, for example, for effectiveness, efficiency, and satisfaction are things like that counting errors that causes a vote that is cast not as intended, or a vote not cast, that is (errors prior to success) for the voting systems -- well, if they do eventually cast the vote as intended, errors might contribute to -- prior to success, contribute to taking more time using the system. But that is also a critical aspect because we don't want long lines at the polling places. You can measure subjective satisfaction as a measure of errors as well.

The process for user-centered design process goes from design to measurement. You start with a user-centered design when a system is being built. You do diagnostic usability evaluation to advise the design process as you iterate and build a bit of pride, and then at the end, you do a performance test called usability testing.

Now, what's the state of usability of U.S. voting systems. In general, voting systems have not been measured for usability, nor have they been developed using a user-centered designed process. So we really do not know the degree to which voters cast their vote not as they intended due to confusion with the user interface. There's been a number of observations by people at either Cal Tech and MIT

Voting Technology Project, Paul Hernnson Digital Government Funded Project on Voting, others such as Doug Jones and many usability professionals who note that there do appear to be some potential problems with the designs that we see that are causing errors.

Now, when we developed standards through usability and accessibility, the design standards or how the product is designed; for example, specified font size or ballot instructions. Performance standards are how the product actually functions. So specified functional characters are no over voting is allowed by the system. You can test that usually by demonstration. There will be users and a lot of voters to go through the system to test that. Counting errors, and measuring performance, like, time to cast the vote, failure in casting vote as intended, that requires measuring with users against benchmarks.

How do we know if the system passes or fails when you measure these things? You need to have realistic benchmarks that go along with the standards in order to test the performance standards. And doing that kind of testing, you also need sample ballots of different complexities if we're going to follow this ITA process that we see that's currently in place. They've got to have some standards ballots to test with. And you need well-defined test protocols and user groups. So, if we want to measure for this qualification testing and certification testing that goes on, well, right now we don't have a protocol for measuring the usability of voting systems. We don't need a high degree of usability because we want low errors. As opposed to if you were using a word processor, you have some errors that are a little frustrating; but we expect better from our voting systems. Following design guidelines don't necessarily ensure usability. We can look to the usability engineering field to provide measurement methods; but again, not necessarily to the degree we need specifically for voting.

I've got a line graph on the left: Informal evaluation, that depends on usability professional evaluating, they have a good sense of what the design is, what minimizes errors, probably not necessarily repeatable, a lot of variation, depending on the expert who is doing the review.

On the right of the timeline: Rigorous research and experience, very complex but reliable things human factors researchers do. However, that's very costly, so what we'd like to do is get a conformance testing up to a point that we've got reproducible reliable results from our testing, so the ITA's can use their tests, but that is still feasible, and it's not too costly. And that's a research issue. So if we want conformance standards for usability, we need to address this problem if we're going to develop conformance testing on certifying these systems. What about current voting standards and testing? Well, the current VSS -- Voting System Standards -- do have some accessibility standards, but only a usability appendix. They're not shallow statements, they're recommendations because you're not being tested against it in the ITA process, there's not much incentive to build to recommendations such as those.

Again, if we really want to test for usability and accessibility, we need standards that are clear and testable, and we need good procedures to do that testing. IEEE P1583 has draft standards, Task Group 3: Usability and Accessibility has been making some good progress. One thing that if you're not involved in a voluntary consensus standards in standard development organizations, you should be aware that that works best when you're got a lot of vendors such as Microsoft, large vendors who can put a lot of capability into this volunteer effort, other organizations, large organizations with a good bottom line, so that they have resources to bring to bear to send teams of people to develop conformance tests along with the standards.

IEEE has gotten a marvelous set of volunteers, but they don't have a lot of resources. Participants don't have a lot of travel money and, Steve, correct me if I'm wrong, that's just being realistic.

STEVE: That's absolutely true.

DR. LASKOWSKI: If you're going to be serious about performance based standards, you have to address that issue that you need resources to develop benchmarks for testing conformance.

The Human Factors Report. Our report recommends an approach that will produce measurable voting system standards for usability and accessibility. It doesn't need a lot of research, but it does need some. It does need expertise in conformance test development, some applied research to develop their user testing protocols I've alluded to. And because of the sensitivity of voting systems, we want to make sure we have good neutral third parties that develop these benchmarks. So there's no cheap, quick fix here. But there's some things we can do in the interim to require some usability testing so that we could avoid major usability blunders. And that's probably a good place to start, but there is no guarantee.

I guess I have time to quickly go over the 10 recommendations I've summarized, and you can read the report for much more explanation and detailed sentences for each of the recommendations.
The 10 recommendations are:

Performance-based usability standards. They're high enough levels so that they're not what I call technology agnostic. We want then independent of the technology being used, because if you base your standards on very exact technology, when new technology or approaches come along, you've got to redo your standards. So you don't want them to be very specific. But if you've got performance-based benchmarks, they are pretty much technology agnostic.

One thing we also noted is that we need a complete set of user-related functional requirements. Over voting is a functional requirement. Pulling those out means usability testing gets easier, because you don't need to do a lot of usability testing with users, you can specify the testing to test against functional requirements. One thing we've noticed is those things are kind of haves been intermixed, so it would be helpful to pull those out.

You want to avoid low-level design specifications. Use only product design requirements that have been validated as necessary for operation of the system.

We do need to apply research to support the development of benchmarks for usability and accessibility standards.

We should review the current requirements form the Access Board, the current VSS, the draft IEEE standards for possible adoption, because there are good nuggets in all of those.

Ballot design guidelines. Butterfly ballot comes to mind. There's a lot of good work out there on good presentation from the America Institute of Graphic Arts, AIGA, and other groups, and we're pulling those together. They wouldn't be standards for good conformance testing at the ITA level because ballots are designed at the state and precinct level. But I think those would help election officials a great deal in producing better ballots and avoiding bad design. And, again, I think that's a matter of collecting what's currently out there and pulling it together in a better format.

Also, guidelines for facility and equipment layout; also guidelines for how to design and usability tests for the vendors; and usability testing, good usability based documentation and training materials. Users beyond the voters here, and all that supports a better voting system process.

Vendors should incorporate a user-centered design approach. There's lots of literature out there, standard, user-centered approaches in systems engineering.

We need a good set of conformance tests for voting products against the applicable accessibility requirements.

And, finally, we need valid, reliable, repeatable, reproducible processes for usability conformance testing of voting products against the usability standards described in the first recommendation with agreed upon usability pass/fail requirements. That is: It passes benchmark, yes or no.

I would say the most critical need is a set of usability standards that are performance-based with objective measures and conformance test procedures. Then we can certify against usability, and this is the only way to guarantee high levels of usability.

And just to summarize a very shortened version of a roadmap here. In the short term, we can do a lot to encourage usability and user-centered design. Some usability testing at various levels. At the vendor level, at the state level with actual ballots; for example, to mitigate possible problems that may occur when you look at real ballots. There's a lot that can be done just educationally to bootstrap people to this way of thinking.

Long term: We should start with using the best of IEEE and other standards. Get some good ballot design guidance. The parallel, to start developing good user test procedures, collect user data to define performance baselines, and develop performance standards and conformance tests, that would bring us a lot further than we currently are.

I guess we have a minute or two for questions.

CHAIRMAN BEMENT: Yes, thank you, Sharon, very much.
Are there any questions for Sharon?

MR. ELEKES: Yes, Mr. Elekes, Access Board. As you were going through your list, you said accessibility and facility, I didn't catch the point.

DR. LASKOWSKI: Yes, we do need some accessibility, both design standards and -- the performance standards are with respect to usability. With respect to facilities, I think we need a -- not these don't go through the ITA's because facility set-up is done at the polling place. We want to make sure we have good facility layout, including good accessibility written in such a way the documentation is plan language, and easy to read for our poll workers so that we make sure that they all have a good understanding of how to set things up properly.

MR. ELEKES: On that point, it may just be a replication of work, because about a year and a half ago, the U.S. Department of Justice came out with a check sheet and a diagram for barrier-free access for polling places. Now, with the election equipment that might be built and specified, would those parameters have to be modified, or is that a consideration for the human factor to have the equipment fit into the recommendations as published by the Justice Department.

DR. LASKOWSKI: Well, there's accessibility recommendations at the polling place of the set up of equipment. There are other considerations; for example, if there's audio use, are they far enough apart for privacy, also, on screen glare, it's not accessibility in terms of the disabled user, but just in general, is your lighting set up properly, and your polling booth set up so the screen is easily readable. So it does depend on the equipment itself. And so I think there's a set of guidelines for accessibility and a design kind of guidelines that would be specific to the technology based upon the recommendation for equipment.

MR. HARDING: Yes, J. R. Harding. Based on the earlier comments by our chair, would there have been room within this discussion for an independent testing authority. Does that contribute to that process of understanding the accessibility or the requirements.

DR. LASKOWSKI: I guess I'm not sure I understand your question. The ITA's currently don't test for usability. I think they're waiting for guidance on what conformance tests ought to be. I believe on Task Group 3, there is at least one person from one of the test laboratories. Isn't that right?

MS. QUESENBERY: Not active, they're not active. There's someone from one of the test labs who's on the list and has occasionally chimed in, but she hasn't been reactive in writing.

DR. LASKOWSKI: We don't see any immediate contributions from those parties at this point. But we certainly would want to be inclusive here.

MS. QUESENBERY: If I could chime in, this is Whitney Quesenbery. One of the things we've been doing is looking at other standards. There's an ISO standard that's being developed for usability testing of walk up and touch kiosks, and that seems like that work would be relevant. They're also trying to define a test procedure. We're trying to leverage some of that work as well. So there are some standards being developed in other fields that are applicable, although, not directly applicable to voting.

MS. TURNER BUIE: Sharon Turner-Buie. It appears that all of the guidelines and standards that are set up will be developed using an ideal situation as a benchmark. And you look at usability/accessibility. We will adopt the standards based on an ideal set of poll situations. Will these guidelines also contemplate or provide standards for those facilities than are less than ideal, that will be encountered by the elections administrators?

DR. LASKOWSKI: I think there's two levels of test. One is the certification test, which, of course is in a vacuum in some sense and it's independent of the different kinds of environments that are depending on the state and precincts. If you look at some of the other details or recommendations that are on the map, one of the recommendations is also for a for a usability testing that's done by election officials for their actual ballots, knowing what their situations are like in the polling place to get some idea of potential problems. And I think that's about -- so not necessarily guidelines, but certainly guidelines on how to do some usability testing and setup to avoid problems due to the environment of the polling place itself. Now, of course, if you violate some temperature range on the equipment, you know, then all bets are off.

MR. WILLIAMS: I'd like to clarify something. This is Britt Williams. When you talk about the ITA's and the FEC testing and all, we tend to talk at the federal level. The FEC standard actually

defines three levels of testing, not only the ITA level, but it defines a level of testing that should be done at the state level, and a level of testing that should be done at the local jurisdiction level.

DR. LASKOSWKI: Yes, there's also the certification acceptance testing --

DR. WILLIAMS: Yeah, that's what I'm talking about certification at the state level.

DR. LASKOWSKI: Right. When we're talking about the standards like the VSS, I've concentrated mainly to report on the ITA testing that's part of qualification; but there are some recommendations before that do say you need to do some of this testing locally as well with respect to usability.

DR. WILLIAMS: And I would expect whatever standards we develop to take the same approach.

MR. CRAFT: Paul Craft. We have dabbled recently in usability and accessibility standards for beginning with the publications of 2001 standard. We brought in both a standard set of ballot layout requirements, and we also have been experimenting actually using what's a very preliminary rough of information available standards for audio ballots for accessibility and developed a procedure on that. The biggest problem from our perspective is developing metrics. We approached it taking those things that we clearly knew were issues and those things that we learned about of the test methodology. It's quite doable.

DR. LASKOWSKI: Oh, it is. I think it is, and I think that's something for the subcommittee on the Usability, Human Factors and Privacy to consider in making progress on those.

MR. HARDING: Just for those of us who aren't quite as familiar with the whole voting application, could we get one more review of the way you had the three level of tiers, I guess, ITA's and the national votes, because I believe the disabled community would really like to know where that certification or standard process -- where folks can really contribute and participate in their communities at the local, the state versus federal, and how might we then ultimately agree to that standard.

CHAIRMAN BEMENT: Care to address that, Britt?

DR. WILLIAMS: Sure, be happy to. This is Britt Williams. The testing that's done at the national level is the testing of the features that are going to ultimately wind up in the system. Now, when you get to the state level, primarily what you're looking at at the state level is compliance with state requirements, state laws, state rules, and state regulations that are not addressed at the national level. When something comes to us from the ITA's, we assume that it's accurate, for instance. We assume that it's functional within the functional definitions and the standards and so forth. And we test for usability at the state level. The ITA's do not do any usability testing that regards election officials, how difficult it is to run an election with, that sort of thing. It's a checklist: Does it have this feature? Yes. Does it have this feature? Yes. It does not look at how gracefully that feature is implemented. We do that at the state level. We bring in some local election directors, have them look at the system, and give us their opinions how easy it would be or difficult it would be to use the system. The federal level does not look at affordability. They don't care what it costs. They don't even know what it costs. We very much care what it costs at the state level. Then when you get down to the local level, in most states, the local level is the procuring level. They're the ones that wrote the procurement policy.

So for acceptance testing, there generally are two dimensions. One is you're verifying that what got delivered at that local level is, in fact, the same thing that was qualified at the federal level and certified at the state level. And then the second thing you're verifying is that it complies with the procurement documentation. So that's generally a description of the three levels.

MR. CRAFT: Paul Craft. Another perspective on that is the Florida approach where we really -- we do not recognize the federal qualification process at all. We have our own state level qualification/certification program. We do use some of the work product out of the federal labs. But our view of it is the certification testing evaluates the system to make sure that it meets the established standard. And once again in our case, as with the federal program, our legislature has directed us to leave the cost and the usability pieces in large part to the local jurisdiction.

The question of how difficult is it, and what kind of resources does it take to lay out a ballot and stage an election, that has been directed to the cost benefit analysis of the local jurisdictions. Our state would level casting the votes and assuring the system is properly operated according to documentation can be reliably used and the performance expected. And then we look to the county government to do their acceptance testing and to, in their procurement process, specify what their standards for the system is, and then do acceptance testing to verify those standards are being met.

Then, of course, the third level of testing is the logic and accuracy testing which relies on both the two higher levels of testing, actually verifies that the programming of the systems in this user's hands has been properly done. And then you follow back on that with an audit process where we can verify the system against our benchmarks of what we have tested for.

CHAIRMAN BEMENT: Do you want to add anything to that, Sharon?

DR. LASKOWSKI: I just thank you very much for giving me this opportunity to talk about the NIST report.

CHAIRMAN BEMENT: Okay. The next person, Ed Roback, is probably one of the most overworked division directors at NIST. Ed is responsible for the security division, which writes the federal standards for information processing for the entire federal government, and a lot more, smart cards, and whatever. He'll provide his background.

MR. ROBACK: Mr. Chairman, members of the Committee, it's been an honor to be here this morning and be with you.

SPEAKER: Can you speak a little louder?

MR. ROBACK: All right, a little louder.

What I thought I'd do is give you a little sense of what we do out at NIST in the area of computer securities, since we will obviously be helping to support the activities of the TGDC.

First, I'd mention that NIST does, under the Federal Information Security Management Act of 2002, set the computer standards for the entire federal government. We're a non-regulatory agency but we use inspectors general and chief information officers and so forth to implement security across the entire federal landscape, except for a very small set of systems that are classified for the national security system.

So when we do standards and guidelines, we range from technical, things like encryption algorithms all the way up to sort of management standards and guidelines, the operating systems dealing with questions of risk, capital planning, procurements, and so forth. One of the things we're doing right now is writing a standard for minimum security requirements for all federal systems. In the past, we've done standards here and there, but Congress has now tasked us to do a standard that addresses the minimum security requirements for all federal systems at three levels of sensitivity. So we're very busy working on that, and we have a deadline of December of 2005 to complete that. I think it would be a fair bit of work doing something like that that could translate to work for voting systems, particularly, when you look at voting systems not just on the tabletop, but an aggregation of systems in terms of networking and tabulation and so forth.

Secondly, we also have authority under the Cyber Security Act where we have authority to run grant programs that provide support for outside researchers and so forth. So in the longer term, if there's a need for that sort of thing, we do have statutory responsibility to do that.

We have an interesting assignment that may or may not play in your voting equipment, depending upon the way that the equipment is set up in terms of commercial off-the-shelf equipment. NIST has the responsibility to come up with security configuration advice for IT products in the marketplace. So when a company or a particular Federal agency goes out and procures a certain device or a certain piece of software, NIST is developing advice as to how to actually configure that particular product for securities, again, based on one of these three levels in terms of sensitivity.

We will be working very closely with vendors because, obviously, there's a huge number of products, out there are unlimited programs. But that's something that's also in our bailiwick in terms of use of commercial equipment.

I have given you a few slides just to remind you about some of this. And this is just to remind you of some of the security issues in the area of voting systems. I preface this with just a general comment about security. It's far easier to have something that's insecure than something that is secured. In fact, most security people would never go out and say something like this system is secure. I don't think any of us would ever want to declare that. But it actually doesn't take very much to find a single little flaw, and that becomes the headline that the system is broken, so you break one little link in the chain. Again, this is just to remind us of the breadth and scope of security issues.

Obviously, it's going to be up to the TGDC to consider questions of: Well, how much security is enough? This again gives you sort of a sampling of the kind of security issues that we heard at the NIST workshop and, obviously, a concern of many others. There are accidental errors and omissions that are typical security problems, and the quality of data kinds of things, voter manipulation. If you've ever been online buying something, you hit that enter key, it's purchased. I want to buy it, and you're sort of thinking: Did I hit that key once or twice? Did I buy one or two of them. Well, obviously, you will see that on the credit card; but if you hit that twice on the voting machine, you voted in general, but the nation hopes you're not voting twice.

Vote manipulation, obviously, in the tallying process, adding/deleting votes, is the tabulation being done correctly? There are risks to the modification, whether inadvertent or deliberate, to hardware and software. So you're thinking now things down at the chip level, does the chip have strong integrity in terms of is it doing what's expected. Some years ago there was a chip, a mathematical processor, and

was doing very complex mathematics in terms of (inaudible) for operations, but it was not actually doing them accurately.

There are some errors like that in basic IT infrastructure components. These are a range of issues you may have think about, issues of integrity of software. So that the software that's loaded on a system and actually being used, is that the same software that's gone from testing; is it the same software that's being ordered from the vendors and so forth.

Audit trails of whatever sort, do you have integrity of the audit trail. Modification/prevention of vote recording, is there privacy. Adding vote data, adding duplicate votes, all of these sorts of risks. Modifications in tallying process, in transit process, not just when they're actually being tallied, but when they're being transmitted.

Preventing access to individual votes, if that's the policy of vote tallies and so forth. Denial of service. If you found a way to bring down the voting systems, you obviously can't get the citizen's votes in. It's a range of these things. And, typically, we talk about having something called the CIA model. The CIA model basically refers to the confidentially, integrity, and availability, for those of you not in the field.

So we think about the things that need to be protected from disclosure, which is confidentiality, and the things that need integrity, which includes hardware and software, protection from inadvertent or deliberate modification; and the availability of systems, processes, and so forth. Thinking about some of those risks, I have given you a table here just to give you a sense that NIST has already done some work, although, not specific to voting systems, but to address some of these kinds of risks. And that also gives you some of the security controls that are intended to support.

So things like access control. What is access control? It has to do with who is allowed to access what information and what system, for example. We have guidelines that address aspects of that. Assurance, when I use the word "assurance," it is strongly tied to security functionality. What it has to do with is a term that us security people use. Assurance has to do with what degree of confidence you have that the system does what it is intended to do, what the specification says, it is doing it.

Security is a little different than some other kinds of functionality. A typical example I give is hook up a printer to your PC. When you hook up a printer, you turn it on, you send something to print, you can tell whether it printed or not, you look at it. When you hook up some security software, you turn it on, and it sits there and hums, and you sort of don't know if it's really filtering all the traffic that I don't want to come to my system. Is it keeping out intruders. Maybe someone came in and copied some data and got out and you'd never know. So security is not always evident or even assurance has to do with an aspect of testing, it is the degree to which you want confidence that the security is operating as intended. And assurance, like security, you can have as much as you want, depending on how much you're able to pay. And there was a comment earlier about who is responsible for thinking about how much, and who actually cares how much it costs to do these things.

I've also gone through some examples here of integrity, auditing, confidentiality and some of the others. And you'll see here the reference to our various security standards and guidelines. These are all available on our web pages. These are hundred and hundreds of pages of various guidelines that are out there to help people.

Just to give you a thumbnail of our actual program at NIST. We have about 45 folks in the area of computer security in our division. We have competence and strong activities in the area of cryptographic standards and guidelines. This has to do with things like encryption and digital signatures. We also do a lot of work in the area of electronic authentication, and a number of key government initiatives across the Federal Government space. We do a fair bit of -- NIST is a research institution, and as you expect, a fair bit of research in the area of computer security, and we raise the specification element of testing. Some of the things we're doing now are in the area of smart cards. We will all be carrying around smart cards one of these things days that have things like cryptographic keys on them. We're working in areas that have to do with wireless security. We think about the security problems that might arise with the risks, but if you start thinking about voting systems and polling places and the voting has some sort of wireless net, you may be exposed to typical kinds of risks.

I talked about checklists and benchmarks. On the management side, we also address the management issues, policy development, policy guidance, personnel and training, education and awareness, some of the management sides of security as well because, obviously, systems cannot operate alone. We also have two programs that may well be very useful in conjunction with the National Voluntary Laboratory Accreditation Program that you're going to be hearing about; and encourage that we do testing in conjunction with the government of Canada on cryptographic module. So when the Federal agency needs cryptography, they have to use a module that's gone through testing to give a higher degree of degree that the algorithm specifications and security of cryptography are at an adequate level for Federal use.

If you're talking about voting systems with cryptography that may provide functions you need, security functions you need, this might be something you want to consider.

We also have a guideline and a process in place in the Federal Government for something called "certification and accreditation." That is, this is a different use of the word "certification" than used earlier. I just want to warn you about that. In the Federal space, before a system is turned on, a management official is supposed to sign their name on the line saying, "I hereby accept the risk of operating the system, a technical review has been accomplished." A technical review in this context is called a "certification." And the authorization by the management officials is called an "accreditation." That might be a concept that you all in security requirements -- that might be a particular you may want to think about whether or not there's any analog to do.

And, finally, we have a program that we run with the National Security Agent called the National Information Assurance Partnership. Earlier, I talked about the program and test cryptographic modules. This program provides for the evaluation of IT products. And what it does is allow a vendor to bring in their product to one of our laboratories, bring in a set of specifications -- the vendor says, I claim my product does these security features -- take them to a laboratory, bring their product, they bring their specification and they bring in a degree to which they want to test it, an assurance level, and then they can go through testing. Now, this testing is a little different from the testing Sharon talked about, because it's not at the bit and bytes level. I think sometimes we talk about conformance testing, this is a little higher, but evaluation-type testing. With everything else, it provides some useful interesting research.

There are other NIST security-related competencies and activities. I won't go through a lot of these, but work at NIST is security protocols, network security, forensics, and biometrics, and you'll be hearing about some of those as well.

The last page is my contact information.
That's just a quick thumbnail to give you a sense of what we do at NIST in the area of security.
I'll be happy to answer any questions.

CHAIRMAN BEMENT: J. R.

MR. HARDING: Thank you, Mr. Chairman. I heard an awful lot of standards in terms of Congressional, but where do we draw the lines for statistical analysis on the confidence level or the significant level, you know, can you conclude something. Do we have those baselines in your shop now, or we will we be creating that level of confidence at 95, 99, 80?

MR. ROBACK: I wish it were as quantified as you are suggesting. It is not. What we have done in the Federal space is said, here are definitions of there levels of sensitivity based on the risks. And then we're going to say that for each of those three levels, here's a minimum set of controls. It's up to you, ultimately, as the owner of the system or the operator to have to make a decision whether or not you're willing to accept the risk, because nobody's saying that that set of controls is going to beat every considerable risk. So in the end, people always talk in risk management, we're always talking security resource tradeoffs. That's just the nature of security.

CHAIRMAN BEMENT: If I may comment on that just for a moment. In dealing with risk management, and this is where the people, procedures, and technology comes in. It's a question of where you draw the line between risk avoidance, risk mitigation, and risk acceptance. In some cases, if you have the right procedures, and the right people training, you can do a fair amount of mitigation. It's pretty hard in real life to do total risk avoidance, certainly by technology alone. In many cases you can manage risk as well.

MR. ROBACK: Just picking up on that, you can think in terms of do you set security requirements at a very high level, which are usually called control methods; that is, the system should be capable of keeping out intruders, something really really, high like that. But that would mean the ultimate in terms of data as a technical measure or a managerial security control or some combination thereof to achieve that. And you can delve all the way down to saying the requirements are at the bits and bytes level, if you're going to do encryption, you must use this.

MR. CRAFT: Paul Craft. As one who's been battered fairly frequently in the cross over whether or not we're doing effective standards for security, this is something somehow I'd very much like to see NIST bring some sanity into this process. There are a tremendous number of people out there who are yelling, advocating security, whose view of security is to put a very high level of encryption on everything. In one of the recent reports, I think the Ohio report, they demanded the election results be encrypted for telecommunication from the polling place to the central count. Well, at point where you're telecommunicating those results, those are now public documents. If they've already been published, there is really no reason to keep the contents of those transmissions secret. There is, however, a very high level of interest in digitally styling those so that you can authenticate it to validate. My concern watching it, as I've seen the vendor community try to adapt to these criticism as they're putting a lot of procedures, and a lot of CPU time into high levels security in areas that don't really need that kind of security. So, I'm really looking forward to you all helping bring some sanity.

MS. DAVIDSON: Donnetta Davidson. I think to tag on to what Paul was talking about. My question is: Is there anything being done or will they be doing anything to study what has already been

accomplished like the sanity issues? A lot of these, I mean, people really don't understand the auditing and the process that's been taking place, and the security that has been put into, you know, the efforts of making sure that the elections are running properly to know how we can improve it. I mean, I hate to see us spend a lot of time in writing something and we're already doing it. So is there going to be somebody that's really going to go out right now with the security and with the efforts of auditing and testing before, and testing after, and how to secure all the information. I think that we almost need to know where the vendor community is at right now to know how we can improve.

CHAIRMAN BEMENT: I think I can refer back to the charge that Chairman Soaries this morning pointed out that we don't want to reinvent the wheel. We want to start with what is already in place and improve it, if we can.

MR. ROBACK: Obviously, I can't speak to the activities of the subcommittee, but one would naturally expect that some sort of inventory of current best practices would be an important part of their kick off.

DR. RIVEST: Thanks for the great presentation. I had a question at a very high level of NIST's philosophy about standards in the area of security. One thinks about the fact that security is sort of a negative attribute -- in the absence of vulnerability --- I may be using my terminology wrong. And also one strives to be technology independent, so trying to rise above that.

MR. ROBACK: There were two or three very interwoven questions there and issues. I'll take those apart. They're very insightful questions. The first is NIST is generally charged with technology neutrality in security standards development. However, in some things like cryptographic standards, in order to have interoperability, you simply need to be using the same technique.

So how has NIST dealt with that? Well, NIST has improved in some areas neutrality standards, a number of different techniques, and then it's simply up to the users. So that sort of tries to straddle the fence.

In the area of security, when we put together these minimum requirements for all federal systems, that will be our first stab really at saying, this is what we see as a reasonable comprehensive set of controls.

In the past we've done important work, but it's been if you do this technique, this is how it should be done, or this is a way to approach it. As opposed to say, that's a technique that must be used, and that if you use it, you should use it with these other things. So looking at what constitutes a comprehensive set for the purpose of voting systems, given the risks that you all see, and the risks you're willing to accept is the challenge, of course.

I think that answers your question.

CHAIRMAN BEMENT: Anything else? Thank you very much.

MR. ROBACK: Thank you.

CHAIRMAN BEMENT: The next speaker is Mark Skall, who is serving as Acting Director of the NIST Information Technology Laboratory.

MR. SKALL: My name is Mark Skall. I'm the Acting Director of NIST's ITL. Up until a week ago, I was actually running the software testing division. So we have a lot of experience in testing against specifications.

What I want to do this afternoon is give you the NIST perspective on how to write quality specifications. Many of you, I'm sure, are well-versed in this area.

Just a little background on NIST's role in the information technology industry. We work industry and Federal agencies to develop standards and tests to improve the quality of software and achieve interoperable solutions.

We have many years of experience working with formal standards, organization, like W3C, OASIS, ISO, IEEE, and HL7. Our experience dates back at least 30 years or to the early 70's, and we started out working with committees such as cobalt standards committees. We spent a lot of time working on Internet standards such XML.

What we do with the committees is helped them develop good testing specifications. We developed conformance test suites, tools, and reference implementations. And we have in the past done a lot of work in developing validation and certification testing programs, but now we, except for the security area, typically we help other people do certifications by helping them set up procedures.

The next slide is one of my favorite slides. It shows the relationship among specifications, implementation, and conformance testing. The goal is to develop trust and confidence in your software. This is not an isolated process. There are may other factors involved. Clearly we need good specifications with requirements, which feed the input to the software.

We need conformance tests which check to makes sure that the implementation, in fact, conforms to the requirements.

If we look at these three parts, merely as the three legs of a three-legged stool, they are absolutely necessary if one of the legs fall out, the stool keels over.

With that having been said, the specification is really the most important part. So good specifications are really the key. That's something we preach time and time again. The goal is to correct reliable interoperable software and the requirements for the software are captured in the specifications.

So if these requirements are wrong, think about this for a second, everything that ensues from that requirement, the software, the test, the certification are all wrong. So you have to get those requirements right. So these are some of the things we think about when writing specifications.

Specs must use appropriate language to designate requirements. So you can have the best requirements in the world, if the vendor doesn't know their requirements, then you've lost the battle.

MR. HARDING: Mr. Chairman, can I interrupt for a second? From your experience in communicating to vendors, are there more effective ways to ensure the clarity of those things?

MR. SKALL: I think people typically do a good job, and we'll get into that in the next slide. So please ask the question again. The specification must be precise, unambiguous, and testable. I think you heard that from Sharon. You have to tie things down the specification. You can't speak in generalities.

The spec must contain a conformance clause. This is something I think we haven't discussed. This is a very important concept. The user must understand what's expected of him or her. Those of us who get up at forums like this and can speak using English, well, understanding English is not the best way to be precise. It's in fact more difficult to use English to write a specification.

In a perfect world we would use what we call a formal specification mathematical notation to be more precise in our requirement. There are, of course, problems with these, and there are not many people well-versed in writing formal specifications. They are not typically readable by the public. We can use semi-formal specifications, things like XML. Again, there are problems with these.

I think for the issues of the voting community, (inaudible) tend to be stuck with the English language. But to ensure that these things are read by the public, you probably need to stick with English, and that presents quite a few challenges. Again, English is not the best way to be precise.

So I want to go through a few of these points one by one. Specs must use appropriate language. There are key words that are internationally recognized. "Must" and "shall" are the two words that are typically used to indicate mandatory requirements. They're both equally acceptable. Some communities use must and you shall. I think those are good languages to say that this is a mandatory requirement.

There are other words that are used to recommend, "you should." "May" is a weaker word that says something is permissible to do. These are all words that are often used and are useful.

In our experience, we try to put as few of those as possible. When you say they have no bearing on conformance (inaudible) states you can certainly write tests for things that say should, and then you can determine if, in fact, one has this feature, which is an option, and can make sure that this feature is implemented correctly.

Wording like, "good enough," "do the best you can," are really not appropriate for specifications, but you do see them in specifications.

Specifications must be precise. What I mean by precise is one that can be able to determine if that requirement has been fulfilled. So if you're running a program in the shop, you may have a requirement system "shall guard against viruses, Trojan horses, and worms." So you look at us and say, well, that's good key words. But to say this in a more precise way, you may say, "an anti-virus program shall be installed on ones system, and anti-virus software checks and live updates shall be run daily." This is a requirement that you can determine whether it's been met.

Specifications must be unambiguous. I think we've heard this repeated. This is really just that we've worked with many many standards' communities over 30 years, and with a lot of really smart people. Yet you come up with ambiguous and contradictory statements. It's a difficult process, and many of the specifications are very very large. You just have to be really careful to write things that are not ambiguous.

This is an example: "The girl touched the cat with a feather." They might have been thinking in his own mind that the girl was touching the cat, or they might have been thinking, "the girl touching the cat, which has the feather." It just really shows how easy it is to write things that in ones mind, it might seem clear at least two ways to say it.

Specifications must be testable. Is it better to have a requirement that's not testable, if we can't figure out how to test it, or is it best just to eliminate it? I guess one of the rules of requirements is, if it can't be tested, can't verify that it has been satisfied, it's not of any use. You need to reformulate that requirement so it can be tested, or remove it from the standards.

Testable assertions will be derived from normative mandatory requirements in the specification. And again, unspecified, ambiguous, or imprecise requirements cannot be tested.

MR. HARDING: Mr. Chairman, along that line about being able to test the requirement, is it our charge to define that test?

CHAIRMAN BEMENT: Yes.

MR. HARDING: Thank you.

MS. QUESENBERY: I guess in my experience, I also have life as writer, although, I wouldn't claim to be a major plain language expert. I have an aspiration to become one. But I wonder whether we ought to be including some requirement that the language of our applications be reviewed by someone who has expertise in writing of plain language.

As ideal as a mathematical language might be, it's certainly not an appropriate language for a usability and accessibility section. And given the public prominence of this, it's going to be very important that people can read and understand what we mean very clearly.

CHAIRMAN BEMENT: Very good point.

DR. RIVEST: It seems like the appropriate time. I'd just like to register a --

MR. BURKHARDT: Excuse me. Actually, I just need to intervene. Since your financial disclosure statements haven't been approved, the only thing you can do at this meeting is ask questions. You can't express an opinion. That's just simply for your own personal liability reasons. Sorry to intervene.

MR. RIVEST: Okay.

MR. HARDING: Rephrase the question.

CHAIRMAN BEMENT: Rephrase the question.

DR. RIVEST: Do you feel that the testability is appropriate for security requirements where really the goal such as voter privacy may not be captured by the specific checklist of items to be tested against, but rather the ability to withstand (inaudible) you know, may not be sufficiently captured by that checklist of test items?

MR. SKALL: I think that's a fair statement. My perspective in regard to the issue has been in non-security areas, so we're talking about functional requirements typically. I think security is a whole different game. I'm talking about functional requirements with a specific shall or must. There are many gray areas involved in security.

If I could just add to that. In the area of security, another example would be if you think about some of the software programs, millions of millions of them. One of the security requirements probably would be along the lines of "there shall be no malicious codes barrier." But we don't have right now, any good way to test that. Nonetheless, it's probably a good security requirement that somebody not have inserted a trap door or Trojan in there.

So that would be one example where unfortunately, the state of the art in terms of testing is simply not where it should be.

MR. BERGER: Steve Berger. Actually, I'd like to comment on the difficult issues of repeatability and uncertainty, should be in your thoughts, especially in some of these areas whether we should be addressing the likelihood of a test being repeatable and also the uncertainty of having to repeat it.

MR. SKALL: Absolutely. I try limiting my presentation to susceptibility. There are a whole bunch of issues in testing and certainly repeatability is a key requirement that should be there. Uncertainty is a little bit more difficult. We've done some work in trying to measure statistical uncertainty based on what would be the probability that, in fact, implementation does, in fact, conform, assuming it passes a set of conformance tests. And that's a very difficult problem.

And, of course, the more comprehensive the tests are, the more probable it is that implementation does in fact conform. It certainly is an issue that needs to be addressed in testing, and certainly is very important.

MS. QUESENBERY: I have a question that I struggled with in writing other standards, which is, how do you create -- this is probably not a short answer, so I'm just really putting it on the table. But how do you handle creating a standard where it's going to take a number of requirements together to create the end result you wish, especially if they cross sections?

I'm thinking of accessibility, privacy, and usability, which all need to be considered as a whole in order. So you could meet individual requirements and still not meet the whole.

How do you make sure that you've written a standard that does, in fact, achieve the top level goal?

MR. SKALL: I did the government system requirements, and that's something we discussed. It's a two-tiered process. You first have to define individual requirements, make sure those are met. And then you have to look and see what system requirements are requirements that flow through the intersection on top of all of those.

You have to think about those things. And, again, all you can do is ask to meet everything you have in your specifications requirements. So if you need to do other things that the systems will ensure that everything is done, and you need to think about how to express that.

MS. QUESENBERY: It would be great to have some examples of that.

CHAIRMAN BEMENT: If I may for a moment. I'm a little nervous about the way I answered your question, J. R., with regard to testing. They're three levels of consideration. First of all, what needs to be tested; secondly, in what way should it be tested; and third, what is test to be used?

MR. HARDING: Right.

MR. CRAFT: I recently had the pleasure of defending some of our subjective standards and some findings addressed in our subjective standards in Federal Court, and fortunately, we prevailed.

What we had attempted to do -- and I think this is going to become difficult for this Committee, particularly in the areas of accessibility and usability -- there will come points where you very clearly know what you want to enforce, but there's not going to be a good metric to measure. And what we had attempted to do, and what we prevailed with legally was basically establishing a reasonable manned position on compliance with that particular standard.

How comfortable is NIST going to be with that type of imprecise standards when you get to the point where there really is no other way to address the issue?

MR. SKALL: I think we're here just to give input to the TGDC, and to tell you what our experiences are, and what we see. I think that there are going to be individual decisions that are going to have to be made, based on subject matter. I think we have to make those decisions one by one. In general, I think we all agree that the more precise you can be, the better it is. If you can't be precise, I think that's a case-by-case decision that has to be made about how to best do it in such a way to express the intent of what you want to try to ensure that it is met.

CHAIRMAN BEMENT: If I might interject. What has to distinguish between precision and specificity are basically two entirely different things.

MR. BERGER: Can I just offer a parallel from the FCC where they're trying to deal with interference. They've got a clause in all their requirements that if they find a product that causes interference, they will shut it down, no matter what the specifications there are.

We probably need something like that. The authority to automatically have the right to say that doesn't meet the requirement.

MS. DAVIDSON: Are you referring to a de-certification?

MR. BERGER: Yeah, basically it's a safety net with the Commission. They're required to assure that undue interference is a possibility, and there's clearly a possibility that despite the best efforts of all these tests, with technical specifications, something slips through.

And I think we have some similar things, some high-level requirements. Potentially, no matter how well we do our job, something slips through, a major security flaw, or something else and the examiner sees it. And I think in our specifications, there ought to be something that says, where that's clearly the case, that takes precedent over all the detail underneath.

CHAIRMAN BEMENT: You have a follow-up question?

MS. DAVIDSON: I think that's very good. Yes. Donnetta Davidson. Because I think that once in a while, we do find a flaw even when we're testing before an election and, that piece of equipment or, you know, whatever the problem might be, that is not used and, obviously, we do not want it used.

But there's also an issue that at times states have decertified a certain make of equipment because it's not meeting the standards that they felt it should. So that was really why I was asking if you're

referring. I think that there needs to be any time that they find that there is issues, definitely they have procedures set forth that they can decertify or not use the equipment, whatever words you want to use. I agree whether it's the equipment or itself or whatever it might be.

MR. SKALL: To be rigorous, in my view, the best way to do that or, in fact, something is deficient, you know, and passes the test, that means your tests aren't comprehensive enough. What you want to do is go back, enhance the test to, in fact, catch that. So you want to keep the test up-to-date as much as possible.

DR. LASKOWSKI: Since you're on usability, the questions that Paul had, quickly, with regard to the desertification type of thing and usability, so, for example, you might as a requirement test by demonstration that this system does not allow over voting, but then in the course of usability testing, a voter over votes.

At that point you're supposed to test it, even though it passed initially, at this course of use, it didn't pass. And then, Paul, you referred to accessibility issues. The conundrum is that you can design your tests with certain good coverage of users for usability to show that different classes of people with disabilities can use this system effectively and efficiently. And there's also going to be some unique sets of individuals that cannot use the system. And then you do need some sort of reasonable clause.

So I think that maybe an example might be -- although this is a design spec, doors are designed for most wheelchairs to fit through. If you have a wheelchair that's a very nonstandard or very wide design, it's not going to fit through, yet those doors according, to the accessible specifications are acceptable. So I think there is a special case with respect to accessibility that we have to tread carefully on and think about.

DR. RIVEST: Ron Rivest. Another question. Could you comment on the viewpoint of testing as providing information above and beyond either pass or fail with respect to the standard? You know, one could derive from the testing procedure, you know, how long it takes the average voter to vote, how wide the wheelchair access might be, things like that that might be useful to the state when making purchases.

MR. SKALL: There are all levels of testing that one could do. The absolute minimum is how much the conformance tests determine what the requirements are. That is all you need to do to set your conformance test. Clearly, it helps with as much information as possible and that's a question of resources, time and tradeoffs.

So it's something that certainly should be encouraged. I can't say it's always done, and I'll get into this later. Testing is incredibly expensive, and there are so many spec outs there. I'll get into some of the tools we've developed at NIST to try and help. It's an expensive process and must be a part of the decision (inaudible).

MR. WILLIAMS: Britt Williams. This is just kind of a point. We talk about pass/fail and standards, but in the ITA process right now, we do not fail a piece of voting system. If you submit a voting system for ITA qualification, it comes out of there one or two ways. It either passes or the vendor withdraws. If it is found to be deficient, then you go back to the vendor, find out the deficiency and given them the opportunity to correct it. But you never go to the vendor and say, you're out of here, you failed.

MR. SKALL: Thank you.

MR. HARDING: J. R. Harding. Thank you, Mr. Chairman. I just want to rap it up a little bit in the sense to say thank you, because as our colleague pointed out that no voting location is truly identical. And the circumstances to replicate tests will truly be diverse. And that we will need to remember where the (inaudible) and the states and counties embrace it.

MR. BERGER: Mark, I think it's roughly accurate to say that you paid for every testing in 2002. You paid a $30,000 plus or minus some thousands. And there's some point at which we raise that testing process, and we start doing bad things to the system.

And one of the things I'm quite mindful of is we're dealing with a very narrow industry here, a very specialize niche. It's really an ongoing question, but I'm just wondering what your thoughts might be about how we're going to do what we all want to do, and yet not in the sum, end up breaking something worse by just the testing costs, the costs of compliance?

MR. SKALL: The only answer I can give with this, and you wrestle with this, is that I keep preaching that there has to be bigger, more efficient, cheaper ways to do this. (Inaudible)

I think we as community need to think about how to develop testing in a more efficient manner, and do the best we can to make testing more cost productive. And part of the decision about tradeoffs, and it's still expensive, it can be perhaps be a little less expensive and more comprehensive.

We need to invest in research to do the tests. In the short term, I think testing is very very important. I mean, basically, we have to realize it's going to cost us, and the best thing to do is we have to figure out a less costly model.

MS. DAVIDSON: That was basically my question. I was afraid we might push the States so far they wouldn't adopt the standards. As I opened up with saying, my goal is that every state adopted what we did, and you touched right on my point.

CHAIRMAN BEMENT: Okay. Maybe we ought to move forward.

MR. SKALL: Actually, I was telling my colleagues I thought this would be non-controversial.

Okay. I'll try to rap it up. A conformance clause is a way to tell the implementers what conformance should address at a minimum, and who needs to conform. Any time more than one type of entity needs to conform, what must they do to confirm. It may for conformance purposes, refer to functional subsets, modules, profiles, levels or other structures. But the conformance clause must address what's expected, so if there are five profiles, one profile, at least one profile out of five profiles must conform.

The concept of extensions is very very important. Extensions are the inclusion of additional functionality above and beyond what's required. Extensions sometimes are allowed, sometimes are prohibited. The specifications should address the concept of extensions, say whether they're allowed or what constraints are to be placed.

A few years ago, we at NIST worked closely with WC3 to develop guidelines on how specs should be written, and we had a workshop at NIST. A few years ago as a result of this, the WC3 started a new activity for quality assurance that they're helping to lead. And we're developing, among other things,

guidelines that have already specifications. They initially could be used with anybody (inaudible) directly in the community. This is perhaps one resource we can use to help the voting community to draft form (inaudible) certainly we can make it.

MR. HARDING: Mark, could you define for the committee what WC3 is?

MR. SKALL: WC3 is worldwide web insertion.

MR. HARDING: They seem to lead in technology for accessibility.

MR. SKALL: Just summarizing now, I just wanted to mention a few efforts. I mentioned the WC3 quality assurance activity. We are involved in OASIS as well. We share the conformance testing activity. We have produced a document to help with the conformance tests.

We do what I call a conformance advisory. We work with not only standards communities, but other communities such as the healthcare community, the Department of Transportation, we work with the airline industry, to help (inaudible) them how to write conformance tests and things like that.

I mentioned before, we've done a lot of work in testing and developing testing technique. I mentioned four or five that are concentrated on different things to outcome. We have used this methodology to help generate a very extensive set of XML tests that are used voluntarily by just about every vendor.

Lastly we have a National Software Reference Library developed for the forensics community? Doug White will be speaking about that as soon as I shut up.

The last slide is the contact information. Do you have anymore questions?

DR. RIVEST: Could you comment on the utility of open source software, the quality of it, and evaluation of reducing the costs of evaluation?

MR. SKALL: I think open source has some merits. Of course, it's a double-edged sword because with much of the open source software, you don't know how to evaluate it. I think it's a tool that can be used if you have to look at again making use of all your resources. Open source, by it's very nature, sometimes is not tested very well. As well, you don't know if it's a tool that can be used.

DR. RIVEST: I was asking about the testing of standards of user software which was provided in open source format, not using open source tools?

MR. SKALL: The same issues really apply. You have to put in the input that you're testing. The key issue here is you have to be very careful in writing the requirements and developing the test.

DR. RIVEST: Why does one have open source -- open setback and open source software. The argument is often made that one can benefit from the public at large looking at both the code and spec to see there is no test.

MR. SKALL: Is that scientific test methodology?

MR. CRAFT: Paul Craft. I so have some comments, and I've tried to avoid just flat out saying the way things are. Open source is a real good way to get comment on your code from other

knowledgeable parties. That's why it is such a popular approach for developing things, particularly in the academic world.

As far as evaluating the system, the evaluators must review and analyze the source of the code, and then they must witness a compilation of that source code in a positive compilation environment. If you don't have total control of the compilation environment, you're wasting your time. If you don't review the source code before you witness it, you're wasting your time. And, of course, if you strictly look at object code produced, you're doing black box testing, which is pretty much (inaudible).

The real value of putting voting systems source code out there for public comment by people who really have no way of witnessing the compile or getting a chain of evidence between that code and the stuff you're going to be voting, it is pretty much a waste of time.

CHAIRMAN BEMENT: Thank you for that feedback. Anymore questions? I think we can get you off the stand. Thank you. We've been at this for a while. We need to generate our circulation systems, so we're going to take a 15-minute break. We will reconvene at 20 minutes of. But if you have filled out your preference forms as far as subcommittee assignment, if you would pass them up, we will take them now.

We'll reconvene at 20 of.

(RECESS 1:20, RECONVENE 1:40)

CHAIRMAN BEMENT: The Committee will come to order. I'd like to make a general disclaimer so that everyone understands what NIST is and what our role is. NIST is an institution and agency of the Federal government. It is not a standards' development organization. We develop guidelines, but we don't write standards. We work with the standard developing community. There are about 300 standard organizations that we routinely interact with. We're not a regulatory agency, so we don't write regulation.

And so then the question is: What do we do? Well, we're the subject matter experts for those who do the standards writing, and the people who own that process are the standard developers.

As far as this committee is concerned, the products of the Committee are owned by the Committee. NIST is there as a service organization to provide useful input along the way, and no more no less.

So we're a resource that you can use to your best advantage. And I think you'll find that that is going to be a very useful resource for you. The other two points that I wanted to cover: Everything that has been handed out to you will be available electronically if you wish to leave the material behind. It will be posted on the web site. I think that also applies to what Chairman Soaries handed out this morning, but I would suggest you take that with you so that you can begin looking at it, because it may take a while before we can get that on the website, maybe a day or two.

With that exception, if you wish to leave anything behind, you may do so.

The other thing has to do with the establishment of the subcommittees. We would like to do that today, if we could. We will do it as soon as the final clearance is in hand, and that should take another week, maybe two weeks at the long end. Those will be posted on the web site, and you will be notified by telephone or by mail just as soon as we can get those organized.

We will begin working with the Chairs to begin scheduling the first interactions of the subcommittees.

With that, I would like to call on Doug White. Doug is project leader for NIST's National Software Reference Library, and he's going to give us an overview of how that library operates. Doug?

MR. WHITE: Thank you very much, and thank you for the opportunity.

As an introduction, the National Software Reference Library is really three things:

- One, it's a secured room full of software, over 5000 software applications at this time;
- Second, it's a database that we keep of all of the file fingerprints or how you call it, hashes, and information that uniquely identifies every single file in every disk and every box on all the software shelves; and
- Thirdly, it's a set of CD's that we distribute to law enforcement and police centers that's only a subset of the information that's in our database.

How the NSRL is used:

Most commonly it's used to eliminate known files from a seized computer using automated means. And there are several other things you can do with the data. You can discover an expected file with unexpected contents.

You can identify origins of files. You can actually trace identities of files through operating systems.

You can look for malicious files such as hacker tools.

You can identify duplicate files.

And we provide rigorously verified data for forensic investigations.

Just briefly on how the NSRL project started: Now law enforcement needed software hashes that could stand up in court, and also could be used in investigations. The source needed to be unbiased, and NIST, of course, is a neutral organization, and we were approached four years ago at the start of the project.

The data produced had to be complied from the highest quality, and NIST has that track record.

The data needed to be traceable and repeatable, so we actually can go back, pull any software application off of our shelves, and we can do mathematics at any time it's called into question in court, and repeat the process.

NIST provides an open rigorous process -- I'll get back to that -- but all of our code naturally is available, all of our process is peer-reviewed.

So specifically to dive into three sections, the software collection is a balance of the most popular software that law enforcement required and encounters the most often on machines that they seize, and the balance of the most desired software, that is the software that is more frequently pirated, what do people go after to obtain.

We collect software currently in 32 languages. This software, the data set is used internationally. I know of Swiss, German, Dutch, Irish, Canadian law enforcement groups that actually use our data set.

The software is purchased commercially, so it's exactly what's available to consumers, what we'd find on anybody's machine. And it's also donated under a non-use policy. Some of the more expensive software, Oracle, for example, some of the Microsoft software, we get every single CD and DVD that Microsoft produces to generate the fingerprints.

A list of our contents is openly available on our web site, so anybody can check that.

As far as what's in the database, again, it's the information that uniquely identifies every single file, every CD or floppy in every box on our shelves.

The database schema, that is the description of the items we collect, is also available on our web site. Anybody can look and see all the information we collect.

And just as a feel or it, I mention some numbers here: 4200 bytes per application, 750 bytes per file is what we collect. So our total database size right now is just over 20 GB, and we've got almost 32 million files in that database.

The reference data set, the CD sets, is a selection of that information from the database. Not everybody needs all of the information that we collect, so we call it down and make up a lot of duplicates. Instead of the 32 million files, 20 million files are represented on these, so that's the smallest set that anybody needs to go through to do elimination. This still allows positive identification of a manufacturer, product, the operating system, and versions of the files based on that file's signature.

The data format, the way that we generate the files that are the CD's available to the public and open for developers. There are several tools, forensic tools that are built for third-party vendors that can import this data set.

It is published quarterly, and it's available for redistribution. We'd like to get this out into the hands of as many law enforcement agencies and researchers as possible.

Beyond that quarterly deadline, it is possible to publish critical data out of our regular schedule. We were approached back in February by the FBI and DOD, who asked us if we could generate a specific batch set of Arabic software, and within that month's time, we were able to give them a half a million files in the Arabic language. We've also done that for certain hacker group sets also.

The next page is a diagram of the field use concept. And if the computer there, you look at the files on the disk drive, we feed those into an analysis program, take our reference data set, also feed that into an analysis program, what you come out with on the right-hand side to the lower right are the known files, the files that we have the signatures of, they're benign operating system files, office application files. You know what those are, you don't need to look at those. Anything else comes out in the upper right being unknown, something to be investigated.

We can take a hard disk, a large hard disk with hundreds of thousands of files on it, eliminate up to 90 to 95 percent of those, and then you can concentrate your efforts on the 5 to 10 percent that are left on the disk that are of interest in the investigation. Another particular example, say you are looking for

sensitive facility maps on a computer that has Windows 2000 running on it. Just when you install the Windows 2000, you get almost 6000 images placed on that machine. We've got the signatures for those. We can take those out of your investigation, so right off the bat, 6000 less images you have to look at in the investigation.

In particular -- now we're going to get into a little bit of mathematics and technical things. Hashes can be thought of like someone's fingerprint. It uniquely identifies the file, based on the contents of the file. But like a fingerprint, you can't reproduce a person from a fingerprint, you can't reproduce the file from its hash.

The primary value that we use is the Secure Hash Algorithm (SHA-1). That's specified in the Federal Information Processing Standards that's openly defined. It's a very rigorous cryptographic algorithm. The phrase that we use if someone knew the signature of some voting software and wanted to try and recreate a hack version of that with the same signature, it is "computationally infeasible," it's impossible. It computationally infeasible to find two different files that would generate that same signature. There's not enough computing power in the world, or time left in the universe for anybody to do that kind of a trick.

On the next page you see some hash examples, and it's just on the right-hand side you can see some long character strings. That's a hash; that's a SHA-1. The first four lists there are from the files called notepad.exe off of one single CD, but those four files are meant to be used on different ship sets of computers. They have a different number of bytes, they're different sizes, and they all have different signatures.

The bottom two that are listed, those came off of two different CDs. They both have .exe and have the same number of bytes, the same size, they have the same signature, they're exactly the same files based on that.

We also have done some research with the National Archives. We've been using our hashing process for their non-classified Presidential materials to evaluate their records. We have been able to identify the application files on the administration's machines, so there's a file when we eliminate those, what's left is the content that was generated by the administration that the National Archives can focus on.

We're also able to identify duplicate files so the National Archives doesn't have to keep 600 copies of the same memo. They merely can just keep that one particular copy. And back from them, we got access to older installed software so this helps our data set. In particular, from what we see, the ways that the NSRL can help the needs for voting systems would be to determine that the software used during elections was the expected software.

That the tested certified version is definitively identifiable. We know that's the code that's been certified.

That the software stays the same during the distribution, installation, and setup, or use.

Then we can talk about possible chain of custody.

As far as transparency, the NSRL methodology is in the public domain, and the algorithms that we use are widely known and available for inspection. And because the final fingerprints don't allow anyone

to know the proprietary contents of the files, jurisdictions may be able to share that knowledge with each other.

As far as what the NSRL, specifically, technical for supporting EAC. We can verify that operating system file contents have not been modified. If you're expecting a system that comes with certain things disabled in the software, we can verify that that is true.

We can verify that application file contents have not been modified.

We can verify that known static sections of files have not been modified. So there may be times like an interface file were you're expecting things to stay exactly the same, even though parts of the file have changed. Or if database files are sometimes modified, we can check certain sections of those files.

And just to give you a feel for time. For an 866MHz computer, a file with 50MB takes about 5 seconds to generate a SHA-1 fingerprint, about 4 seconds to generate an MD5, which is the method more popular, and the one that's used in the field.

As far as ongoing voting research issues, with Commissioner Soaries' remarks, and the five points that he put out there a month ago, we have started working with software companies to get access to the software.

There were issues as far as the distribution versus the installation hashes. What I mean by that is if we're given a CD, if we're given that initial software, that may not be exactly the same as what is installed as far as the installation process. There could be modifications, so we need to research that. For example if there is any setup after the hashes are made, how do you know what changes are valid.

Is it possible or practical to have on-location, time-of-certification hashing, and also research into verification within given time or space or security constraints?

Are there any questions?

MR. WILLIAMS: I have a comment on this. We do this in Georgia. We use this exact same hashing technique to develop a software that's installed in the counties.

The only suggestion I have, we do not obtain our software from the vendor. We get it from the ITA. The ITA qualifies a specific version. And so to be sure we've got that qualified version, we get our copy of the software from the ITA, not from the vendor.

MR. BERGER: Thank you for the presentation. To me it is just a wonderful tool to bring to this arena.

Let me ask you, I know the Chairman is very supportive of quick implementation. Is there any reason not to encourage that as quickly as possible, any implementation issues before this could be brought into this arena?

MR. WHITE: I think that would depend on the requirements that would be set up. I don't know if I can make a call on that at this time.

MS. PURCELL: Thank you. Helen Purcell. A question about the vendors that have filed with their software with you. Have there been some users --

MR. WHITE: There were two.

MS. PURCELL: Two.

MR. WHITE: One that has sent software, just to explain as my understanding goes. I haven't talked with some of the vendors. We need a non-use agreement, the vendors to sign a nondisclosure agreement, whether it comes from the ITA or them, and we do this with all software companies so they know that we're not going to distribute or make it available.

VoteHere, Incorporated, which has publicly available software has sent the software in. The other companies, one has agreed at this point, and we have worked out a nondisclosure agreement with them; however, we have not received the signed nondisclosure agreement back from the company.

And while the other vendors have expressed some interest to the Chairman of the EAC, we have no agreement from the other major vendors at this point. So it's more than just going to the ITA's and getting the equipment. We have to look at the software, and we can't do that until we have an agreement. I saw this as a good practice.

MR. CRAFT: We currently have -- I'm not sure about Sequoia -- but with the other two vendors -- and I can't remember the one you called -- we have verbal agreement with all the three major vendors to take the copies of the software that we have a good chain of custody with, haven't breached the certification, and give that to NIST to work with them on defining both the installed pictures and the release disk.

The legal issues basically are holding us all up right now, and we're going to have to have probably some sort of a three-way agreement in order to hand that over. But also I want to be sure that everyone here actually understands the importance of this. This is probably the most important contribution NIST is going to make to implementing HAVA nationwide.

The work that Britt has done in Georgia, and that we have done in Florida allows our two states to walk into any county, and in a few minutes prove absolute certainty that they either have the certified copy of the software that we certify and test it, or that they don't.

That's a very expensive thing to do. I'm running a bureau of 16 people covering 67 counties. We're working 50 and 60 hours a week, everybody in the bureau.

There has to be an infrastructure that is going to allow every county in the country to do that themselves, and do it economically, so it becomes very easy to do. And that's what the National Software Reference Library offers through all of this.

This is a very important part. Everything else that we've talked about doing here, if we don't get this done, will be for nothing.

CHAIRMAN BEMENT: Is there a recommendation to the Election Assistance Commission on this matter?

MR. CRAFT: I would like to recommend that we very aggressively move toward these legal issues and get a prototype up as soon as possible.

CHAIRMAN BEMENT: Can you put that in the form of motion?

MR. CRAFT: I move that we recommend that we expedite the legal problem solutions, and get this into a prototype as soon as possible.

MR. BERGER: I second it.

CHAIRMAN BEMENT: Further discussion?

MR. BERGER: I just make a point to my eyes, this is something quite substantive that can have an impact on improving this November's election, probably one of the few things we can do. I fully support the motion.

CHAIRMAN BEMENT: Craig, would you repeat the motion.

MR. BURKHARDT: Actually, since this is a motion from the floor, if the gentleman could renew the motion and once again state it for the court reporter.

MR. CRAFT: I'm Paul Craft. I'm from the State of Florida. The motion is we recommend that the legal issues be resolved as quickly as possible.

CHAIRMAN BEMENT: Make it a full motion so we know what you mean by legal issues.

MR. CRAFT: I move that we recommend that we expedite solving the legal issues around Florida's deposit of currently certified software into the National Software Reference Library as soon as possible so that we can bring out the prototype of a software licensed process as quickly as possible.

CHAIRMAN BEMENT: Was that satisfactory to the secondary?

MR. BERGER: It's satisfactory, but I think I'd like to do the following motion. It would have more of a national approach. We would recommend that --

CHAIRMAN BEMENT: Would you like to put in a substitute motion?

MR. CRAFT: Well, ours basically has been sets to file through the chain of custody, and I don't know that Georgia has that from their system. I don't know what other sources of files have a good chain of custody, that's why I mentioned Florida.

MR. BERGER: Paul, if I might throw out a suggestion. Perhaps if we start the motion with a recommendation that the EAC as quickly as possibly implement a software library, and then follow with your motion since as you've pointed out --

MS. QUESENBERY: I think we're just ready to make a general motion.

MR. BERGER: Okay.

MR. CRAFT: I'll second yours.

MR. BURKHARDT: Actually, if the gentleman could withdraw his earlier motion.

MR. CRAFT: I'll withdraw the earlier motion.

MR. BURKHARDT: And the person who was second to that withdraw the second.

MR. BERGER: I will withdraw the second.

MR. BURKHARDT: Okay. So the earlier motion made is no longer on the table. Thank you.

CHAIRMAN BEMENT: Go ahead with your motion.

MR. CRAFT: Okay. I move that we recommend to the EAC that they expedite making the currently certified software available through the National Software Reference Library as soon as possible.

MR. BERGER: I second it.

CHAIRMAN BEMENT: Okay. You second it. Is there any further discussion? With no further discussion, please call the roll.

MR. BURKHARDT: Might I ask the court reporter, did you get the final version properly?

REPORTER: (Nodding in the affirmative.)

MR. BURKHARDT: Then this will be designated as Committee Resolution Number 5.

If you're in favor say, "aye," if you're opposed say, "nay," if you believe you have a conflict of interest, please abstain.

Dr. Bement?
CHAIRMAN BEMENT: Aye.

MR. BURKHARDT: Davidson?
MS. DAVIDSON: Aye.

MR. BURKHARDT: Miller?
MS. MILLER: Aye.

MR. BURKHARDT: Purcell?
MS. PURCELL: Aye.

MR. BURKHARDT: Harding? He's out of the room.

MR. BURKHARDT: Elekes?
MR. ELEKES: Aye.

MR. BURKHARDT: Caldas?
MS. CALDAS: Aye.

MR. BURKHARDT: Berger?
MR. BERGER: Aye.

MR. BURKHARDT: Williams?
MR. WILLIAMS: Aye.

MR. BURKHARDT: Craft?
MR. CRAFT: Aye.

MR. BURKHARDT: Quesenbery?
MS. QUESENBERY: Aye.

MR. BURKHARDT: Mr. Chairman, the votes are 10 in favor, one absent. I advise you to declare the resolution adopted.

CHAIRMAN BEMENT: I so do declare. Thank you very much.

We'll now go to the last presentation by David Alderman having to do with NIST Technology Service Division.

MR. ALDERMAN: We've heard a lot about the technical issues surrounding the voting systems from security to usability. Somewhere down that line when all of those are resolved, we want to have competent testing of it so we can verify it with governmental standard. So that's what our job is.

I have a brief statement here, and if there are any questions after that, I'll address those then.

Under HAVA, NIST is directed to offer accreditation to laboratories that test voting systems, hardware and software for conformance to the current Voting System Standards.

NIST will carry out the accreditation of these laboratories through the National Voluntary Laboratory Accreditation Program, more commonly known as NVLAP, which is administered by NIST.

NVLAP was established in 1976, and is recognize both nationally and internationally.

NVLAP accreditation criteria are codified in the Code of Federal Regulations.

Simply stated, laboratory accreditation is formal recognition that a laboratory is competent to carry out specific tests. I think we've talked about testability -- standards and testability.

A team of expert technical assessors conducts a thorough evaluation, using recognized criteria and procedures of all aspects of laboratory operations that affect test results.

General criteria are based on the international standard ISO/IEC 17025, and those requirements can be found in the NIST Handbook 150, which is also on the NVLAP web site.

Laboratory accreditation bodies use this standard specifically to assess factors relevant to a laboratory's ability to produce accurate and consistent test data, including the technical competency of the staff, validity and appropriateness of test methods, testing and quality assurance of tests and calibration data.

This Laboratory Accreditation Program, (LAP), will specify specific technical criteria that voting system laboratories must meet, in addition to demonstrating general technical competence.

Laboratory accreditation thus provides a means of evaluating the competence of those testing laboratories to perform specific types of testing, measurement and validation.

The quality system required by ISO/IEC 17025, allows a laboratory to determine whether it is performing its work correctly, and to the appropriate standards.

Laboratories seeking accreditation to test voting system hardware and software will be required to meet the NVLAP criteria for accreditation which again includes: ISO/IEC 17025, the 2002 Voting System Standards, and the criteria deemed necessary by the Election Assistance Commission.

To ensure continued compliance, all NVLAP-accredited laboratories undergo an onsite assessment before initial accreditation, during the first renewal year, and every two years thereafter. And you can do additional onsite assessments for cause, if need be.

Only after the laboratory has met all NVLAP criteria, will it be accredited and presented to the EAC for its approval. The EAC may impose requirements on laboratories in addition to NVLAP accreditation. I gave an example there as a first-party laboratories. NVLAP can accredit first-party laboratories, that is a vendor's laboratories. You may not want to do that in this case. It's just an example.

On June 23rd, NIST published a Federal Register Notice announcing that any laboratory wishing to conduct testing under HAVA should contact NVLAP for further information. That Federal Register Notice is in your notebooks and the handouts.

NVLAP will conduct a public workshop with interested laboratories on August 17th to review its accreditation, as well as receive comments and feedback from the participating laboratories and other interested parties.

Of course, all of you are more than welcomed to attend and participate.

As part of the development process, the LAP development process, NVLAP will have to finalize specific technical criteria for testing laboratories and make the necessary logistical arrangements to begin the actual assessment of the laboratories.

NVLAP must identify, contract, and train technical expert assessors to ISO 17025.

Laboratories must complete NVLAP applications and pay applicable fees; rigorous onsite assessments must be conducted; and laboratories undergoing assessment must resolve any identified nonconformities before accreditation can be granted.

More detailed information regarding the accreditation process can found on the NVLAP website at **www.nist.gov/nvlap**.

While NVLAP has over 25 years experience accrediting laboratories, each LAP, Laboratory Accreditation Program, is unique, and NIST will be seeking advice and guidance from the EAC, the TGDC, the laboratories and the community.

It is anticipated that the laboratories will be able to formally apply to NVLAP and initiate the assessment process in early 2005.

Both NIST and NVLAP look forward to working with all of you on the development of this laboratory accreditation program.

Questions?

MS. PURCELL: Are there any laboratories now certified?

MR. ALDERMAN: No, no, we're just developing the program at this time. We have received interest from the Federal Register Notice. We have received -- from the original ITA's, we received other interest from other laboratories, too.

CHAIRMAN BEMENT: Is there another workshop that's planned on this, or did you already cover that?

MR. ALDERMAN: Yes, August 17th is the workshop.

MS. QUESENBERY: Just a quick question. Would a laboratory that's certified to test voting systems have to be able to perform all the testing standards?

MR. ALDERMAN: That's a good question. As Ed mentioned earlier, there are NVLAP accredited laboratories that do cryptographic module testing, and those labs are capable of doing that testing now.

In the current VSS or voluntary Voting Systems Standards, ITA is responsible for an enormous amount, an enormous amount of responsibilities from testing mechanical to software, firmware, and assembly testing also. So it still needs to be determine -- one of things at the workshop is we have to determine the scope of what a laboratory has to meet. And then the ITA is really going to lose as it stands right now anyway, is kind of coordinates bodies. There are certainly people on this committee that are very familiar with the ITA process.

MR. CRAFT: We're going to keep going back in circles. That's the same thing as we said earlier.

As we said earlier, these standards are voluntary. The prior and current standards have been voluntary. What has been absent and will probably remain absent in the foreseeable future is a central authority to pull in the work product of various laboratories and determine that a system end-to-end can be certified.

In Florida we do that, and that's one reason that we do our own program. NASED has frankly tried to do that on a voluntary basis. It's on a number of heads, a number of problems. As you say, the biggest problem is that these labs are taking on a tremendous responsibility, all of them.

I think that something I would like to see possibly come out of the EAC is a recommendation of Congress is perhaps setting up a federal government office that would be responsible for pulling the products together, then you would get the labs out of the role of having this tremendous responsibility for overall project.

MR. ALDERMAN: There's really two steps that the ITA are doing. One is the testing, which accredited for them. And then there's another step which goes beyond that which is certification, which is the review and someone's stamp of approval on that.

The accreditation will be done by NVLAP. They will accredit the lab and make sure they're competent to perform those tests.

Now, there's a step after that. They've said they've met the requirements for the voting system standards. This product needs to go -- the law calls for EAC approval.

I think what will need to be worked out through some people in this room and others; will be what form; what procedure is this certification process; how rigorous; what do we want out of it?

So I think it's kind of a two-step process

DR. WILLIAMS: I can tell you how it works now.

MR. ALDERMAN: Excuse me.

DR. WILLIAMS: I can tell you how it works now.

MR. ALDERMAN: Okay.

MR. WILLIAMS: This has been under the NASED voting system. And in the NASED voting system board, there's a subcommittee called the technical subcommittee. When the ITA finishes its evaluation of a voting system, they send their final reports to this technical subcommittee, and the technical subcommittee approves or disapproves the reports.

MR. ALDERMAN: Okay. I think what needs to be looked at is whether it's at the subcommittee or whatever entity looks at that, what needs to be looked at, how in-depth are --

MR. WILLIAMS: This is a question that needs to be worked out as we develop the standards, because this is dependent on the standards that you develop, obviously. To say, number 1, how are you going to test for those standards; and number 2, who's going to evaluate the results of those tests and say, yep, it's official.

This is a realtime function. This is not something that you can convene a committee and discuss, or hold public hearings on. This is something that generally happens within a week.

MR. ALDERMAN: And do you just look at the test results or do you look at all the data?

MR. WILLIAM: Yeah. To what extent are you --

MR. ALDERMAN: I think that process really has to be hammered out.

CHAIRMAN BEMENT: Thank you, both of you. Anything else? Thank you very much.

Well, this has been a very productive meeting. We have a lot to be satisfied about.

I have appreciated working with you today, and I look forward to our work ahead.

You will find my contact information, as you know, in your notebooks. It's also on the website. And you also note that our next session will be sometime shortly after the first of the year, and that will be published well in advance.

We'll include all information including public testimony hearings and so forth as they occur, on the web site. So there will be an ongoing archive of information that will be available to everyone on the committee.

And again to repeat our website address, it's **http://vote.nist.gov**. What could be more simple than that?

DR. WILLIAMS: Could I ask a question?

CHAIRMAN BEMENT: Yes.

DR. WILLIAMS: Sometimes you say "vote," and sometimes you say "voting".

MR. EUSTIS: "Voting" is the **e-mail** address: **voting@nist.gov**.

MR. WILLIAM: "Vote" is the web site?

MR. EUSTIS: A URL for the **website**: **http://vote.nist.gov**.

CHAIRMAN BEMENT: Thank you for pointing that out.

One person has been with us this afternoon, and I'm sure he would have been with us this morning if he could be. I'd like to acknowledge Tom Wilkey. And, Tom, could you introduce yourself to the group.

MR. WILKEY: I'm Tom Wilkey. I am the former executive director of the New York State Board of Elections. I've had the privilege of being Chair of the NASED ITA Board since 1996. I have two of my best colleagues here, who have served us, Britt as Chairman of the Technical Subcommittee, as he just mentioned.

I want to just quickly say that while we're giving up this program in the near future, we are turning it over to very very capable hands that we've been working with: Dr. Bement, the folks at NIST, for over a year and a half on this transition, and we'll continue to do that over the next several months.

I pledge on behalf of the Committee as well as NASED, our full cooperation in making this go smoothly and congratulate you on your first meeting today.

CHAIRMAN BEMENT: Thank you very much, Tom. Tom has been a real resource to us, as well as the whole community.

Any final comments?

MR. BURKHARDT: Yes, this is Phil Green, and he is one of the senior lawyers at the Technology Administration at the Department of Commerce, who happens to be a specialist in Internet law, among other things. I just wanted to introduce him to you because he will be one of the people that will be assisting me in staffing out the subcommittee meetings and activities along with Mr. Eustis. He wasn't here this morning only for the reason he was still on vacation. He decided to come here early just to make sure he was able to make it.

CHAIRMAN BEMENT: Thank you. Helen?

MS. PURCELL: Mr. Chairman, if I could, please. We are having a primary election in Arizona the 7th of September, and I would certainly invite any members of the Committee and on the Commission, if you'd like to come and view our election, you can do that. As I said, we have a 1.3 million registered voters in Maricopa County. You are invited to observe any portion of that, it could be the week before the election, or any of the activities on election day or on the 7 or 8 afterwards when we tabulate the ballots.

CHAIRMAN BEMENT: It occurs to me that we ought to routinely put on our website all the pending elections, at least the national elections. Yours is a national election?

MS. PURCELL: It's the primary.

CHAIRMAN BEMENT: Primary election. We'll try to keep a running list of all upcoming elections for general reference, again, so people can attend.

MS. QUESENBERY: Was that September 7th?

MS. PURCELL: Yes.

DR. WILLIAMS: The Georgia primary is July 20th.

MR. CRAFT: Florida is August the 30th, I believe. The last Tuesday in August.

CHAIRMAN BEMENT: Are you getting all of that, Allan?

MR. EUSTIS: As much as I can.

CHAIRMAN BEMENT: Anything else? Well, I would like to now turn the meeting over to our Federal officer to say anything he wants to say about this meeting.

MR. DeGREGORIO: It's been a pleasure for me to sit through your proceedings today. And I think you're off to a great start. I know that Dr. Bement and his able staff have put a lot of work into this. You certainly saw the presentation this afternoon. He has some experts at NIST, and we have enjoyed working with them since the EAC came into existence in January.

I know that this Committee will rely on their expertise over the next nine months to come up with the Voluntary Voting System guidelines.

I am the designated Federal officer, and I'm the keeper of the books along with relying on your staff, particularly Allan, to try to keep me legal here.

I want to introduce to you my special assistant, Dan Murphy, who is here. And Dan is going to be keeping the books for me here on this Committee. Dan just started with me yesterday, in fact, so this is really his first full day here.

Dan has great experience. He was my executive assistant when I was the executive vice-president over at IFES, and he was the executive assistant to the president there, and just came back to Washington after two years in L.A. as an assistant to the county clerk there. So I stole him from the county, and he's now here at the EAC.

If you need to reach me for any reason or have information given to me, please contact me and Dan will be able to facilitate that for me, if I'm not available.

It's been a pleasure, and Dr. Bement, I commend you for your agenda today, and your hard work in pulling this all together.

CHAIRMAN BEMENT: Thank you. Incidentally, I also want to acknowledge the NIST staff and the presenters that were here this afternoon, thank them for their presentation.

My experience over the years is that the Chairman gets high grades if he starts the meeting on time and ends it on time. If he ends it before time, what does he get?

So with that, I declare the first meeting of the TGDC adjourned.

(The above meeting adjourned at approximately 2:45 o'clock, p.m.)

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CERTIFICATE OF COURT REPORTER

I, LaDonna M. Woods, and a court reporter in and for the Commonwealth of Virginia, before whom the foregoing meeting was taken, do hereby certify that the meeting was taken by me in Shorthand at the time and place mentioned in the caption hereof and thereafter transcribed by me; that said meeting is a true record;

_____

LaDonna M. Woods
Court Reporter in and for
COMMONWEALTH OF VIRGINIA