

1 **TECHNICAL GUIDELINES DEVELOPMENT COMMITTEE**

2 **MEETING DAY TWO**

3 **NATIONAL INSTITUTE OF STANDARDS & TECHNOLOGY**

4 **FRIDAY, MARCH 23, 2007**

5 **(START OF AUDIOTAPE 5, SIDE A)**

6 UNIDENTIFIED SPEAKER: I have some administrative
7 issues I'd like to go over before we start. Again, for
8 the public members who've not been here, welcome. We are
9 in the employee's lounge which is in the left-hand side
10 of the screen. And the green arrows are the exits. If
11 you are in Lecture Room C which is the overflow room,
12 it's circled as well, and you take a right out of that
13 room, down to the corridor, and out the main entrance.

14 Welcome to all the TGDC members. You have in front
15 of you the slides for the presentations today. For the
16 public, those presentations are on the web. And I've
17 also handed out as I do, and we will discuss this
18 afternoon, two possible alternatives for a May meeting,
19 which we expect to be a two-day meeting as well. And if
20 you could either hand those in to me or e-mail them to
21 me, that would be great. For the TGDC members not in
22 attendance, I will e-mail you those dates and you can e-

1 mail them back to me. I would request a fairly quick
2 response. Everybody seems to think this room worked out
3 well, and if that's the case I need to -- it's all of a
4 sudden gotten very popular since we decided to use it
5 for this purpose. And we actually don't have a green
6 auditorium. There's been construction done. So if next
7 week you could get me your responses, we will look at
8 which times give us the highest number of TGDC members
9 that can attend and we'll work that way.

10 With that, those are all the comments I have.

11 Then, Dr. Jeffrey, the meeting is yours.

12 MR. CHAIRMAN: Thank you. Good morning, welcome
13 back, and welcome to all of our guests, especially our
14 representatives from the EAC. It's good to see you
15 again this morning.

16 I hereby call this meeting back into session. I'd
17 like to begin by asking everyone to please stand for the
18 Pledge of Allegiance.

19 (Allegiance recited by all.)

20 MR. CHAIRMAN: At this time I'd like to ask our new
21 parliamentarian, Thelma Allen, to please do roll call
22 and check for quorum.

1 MS. ALLEN: Thank you very much. Williams?
2 Williams? Williams not responding. Berger? Berger?
3 Berger not responding. Wagner?
4 MR. WAGNER: Here.
5 MS. ALLEN: Wagner is here. Paul Miller?
6 MR. MILLER: Here.
7 MS. ALLEN: Paul Miller is here. Gayle? Gayle is
8 here. Mason?
9 MS. MASON: Here.
10 MS. ALLEN: Mason is here. Gannon?
11 MR. GANNON: Here.
12 MS. ALLEN: Gannon is here. Pierce?
13 MR. PIERCE: Here.
14 MS. ALLEN: Pieces is here. Alice Miller?
15 MS. MILLER: Here.
16 MS. ALLEN: Alice Miller is here. Purcell?
17 MS. PURCELL: Here.
18 MS. ALLEN: Purcell is here. Quisenberry?
19 MS. QUISENBERRY: Here.
20 MS. ALLEN: Quisenberry is here. Rivest?
21 MR. RIVEST: Here.
22 MS. ALLEN: Rivest is here. Schutzer? Schutzer?

1 Schutzer's not responding. Turner-Bowie?

2 MS. TURNER-BOWIE: Here (via teleconference).

3 MS. ALLEN: Turner-Bowie is present. Jeffrey?

4 MR. CHAIRMAN: Here.

5 MS. ALLEN: Jeffrey is here. We have 12, that is a
6 quorum.

7 MR. CHAIRMAN: Thank you very much, Thelma.

8 Today we're going to be concentrating primarily on
9 the cost-cutting issues. Yesterday we had briefings and
10 discussions on each of the subcommittees. There's a
11 number of issues that cross those subcommittees. And to
12 ensure that there are no gaps in what we're trying to
13 do, we're going to be spending most of today discussing
14 that.

15 But first I'd like to invite Mary Saunders up to
16 give an informational brief on NAVLAP, the laboratory
17 accreditation program at NIST. So, Mary?

18 MS. SAUNDERS: Okay. Thanks very much, Dr.
19 Jeffrey, and it's my very great pleasure to be here this
20 morning to give you this briefing. I appreciate the
21 opportunity. I'm Mary Saunders, as Bill mentioned. I'm
22 the chief of the Standards Services Division and the

1 Technology Services Unit here at NIST. And my division
2 is the home to the National Voluntary Laboratory
3 Accreditation Program, which I'll call NAVLAP from here
4 on out for sake of expediency.

5 Section 231 of the Help America Vote Act stipulates
6 that NIST conduct an evaluation of independent, non-
7 federal laboratories not later than six months after the
8 EAC first adopts the Voting System Guidelines, and then
9 that NIST submit a list of qualified laboratories to the
10 EAC for EAC accreditation. I'm going to give you a
11 report on the status of that NIST program next.

12 We've currently completed evaluation of two
13 laboratories and recommended those laboratories to the
14 EAC for accreditation on January 17th of this year.
15 They are IBETA Quality Assurance and Systest
16 Laboratories. The EAC accredited those laboratories
17 February 21st. You heard a little bit yesterday about
18 Brian's response to a question about the EAC portion of
19 that accreditation, the review of conflict of interest
20 (indiscernible) resources to conduct evaluations, and a
21 few other critical attributes. I'm going to talk to you
22 about the NIST portion of the technical evaluation.

1 I'll also note that in the interest of transparency and
2 openness, we've posted on the www.vote.nist.gov
3 information on the on-site assessment of each of the
4 laboratories that passed the evaluation, and their
5 responses to that assessment, as well as our final
6 determination on the technical portion.

7 We have four additional laboratories in the queue
8 and they're listed in alphabetical order, not in order
9 of -- actually Infoguard Laboratories has already had an
10 on-site assessment. They're in various positions with
11 respect to where they are in the application process.

12 All right. I want to tell you a little bit about
13 how NIST qualifies the laboratories. I mentioned it's
14 through NAVLAP, the National Voluntary Laboratory
15 Accreditation Program. That's an internationally
16 recognized and 30-year old laboratory accreditation
17 program which operates in about 17 areas of testing.
18 And NAVLAP also accredits calibration laboratories.
19 Those testing areas in which we accredit testing
20 laboratories range from electromagnetic compatibility in
21 telecommunications to construction materials to body
22 armor to cryptographic module validation. There's a

1 wide range of technical activities. The accreditation
2 criteria for the overall program are codified in the
3 code of federal regulations.

4 I want to call your attention to the last point on
5 this slide, which is that the accreditation is a
6 specific finding of laboratory technical qualifications
7 and competence to carry out specific calibrations or
8 tests. We also got into this a little bit yesterday in
9 one of the question-and-answer periods. The finding of
10 laboratory competence is not a finding that the specific
11 voting system that is assessed is -- it's not a finding
12 with respect to this particular voting system, it's a
13 finding with respect to the competence of the laboratory
14 to test voting systems to the standards and
15 requirements.

16 These are the accreditation criteria. There's the
17 General NIST Handbook ,150. There's also a specific
18 handbook for the Voting System Testing Laboratory
19 Program, 150-22. Both of these are up on the NIST
20 website. And they lay out the requirements of ISO
21 (indiscernible) Standard 17025, the two voting
22 standards, the Help America Vote Act of 2002, as well as

1 the Voting System Standards of 2002, and currently the
2 2005 Voluntary Voting System Guidelines. When the EAC
3 adopts the next version of the Voluntary Voting System
4 Guidelines, the requirements of the program will be
5 updated to take those new standards into account. The
6 program also accredits to any other criteria that are
7 deemed necessary by the Election Assistance Commission.
8 And to date we have not received any specific additional
9 criteria from the EAC, but we do meet regularly with the
10 EAC's Certification Program Manager to talk about how
11 our component of the program is going.

12 All right. Just very briefly, the accreditation
13 procedures. And this is a fee-supported program, so
14 although I don't have it listed on the slide the
15 laboratories do submit fees at the beginning of the
16 application process. Submits an application for
17 accreditation along with the required fees. With that
18 application is included the qualify manual and quite a
19 bit of additional documentation. The lab undergoes an
20 on-site assessment, responds to any nonconformities
21 found in that assessment, and if possible -- this is a
22 critical component of all NAVLAP programs for efficiency

1 testing, which is also known as Round Robin testing when
2 labs will actually test the same system or component and
3 compare the results. At this point we don't have that
4 capability in place, but we do plan to put that in place
5 whenever that's feasible. The responsibility for NAVLAP
6 is to review all the assessment information, make the
7 accreditation decision, and make the public announcement
8 of the NAVLAP accreditation, which is different from the
9 EAC accreditation.

10 What does NAVLAP assess? The operation of the
11 laboratory's management system. I mentioned that the
12 laboratory submits its qualify manual that is a paper
13 representation of the management system. NAVLAP
14 assesses the operation of the management system in
15 action, and specifically also the laboratory's
16 competence to test in-house -- and I want to make sure
17 that that's pointed out to TGDC member -- both hardware
18 and software to a core set of voting system requirements
19 that you can see up there on the slide.

20 There are many other non-core tests that are
21 covered in the 2005 standards and also in the earlier
22 documents. Non-core tests can be subcontracted to other

1 accredited laboratories. You have a chain of competent
2 laboratories, but only those core set of voting system
3 requirements must be conducted in house. Examples of
4 non-core test are electromagnetic compatibility,
5 electrical safety, telecommunications, what testing labs
6 call shake and bake testing, and cryptographic modules
7 can also be subcontracted. Overall security testing
8 must be done in house, but components of those, for
9 example CMVP, can be subcontracted.

10 All right. How does NAVLAP conduct the assessment?
11 Contracts with a team of expert assessors. We have the
12 NAVLAP Program Manager for that program, John
13 Crickenberger, is here today, and he's responsible for
14 putting together the team of expert assessors and
15 actually has gone on each of the pre-assessments and
16 assessments to date of these particular laboratories in
17 this program. The expert assessors are both a general
18 17025 expert, which is looking at the laboratory's
19 management system and ability to conduct competent
20 testing, and a voting systems expert. Those assessments
21 take anywhere from -- there are usually two experts as I
22 mentioned for about four days.

1 The laboratory as I mentioned earlier submits its
2 quality manual. Also, which I didn't know, it also
3 submits a crosswalk between the procedures and the test
4 methods and both the VSS 2002 and the VVSG 2005. That's
5 important to trace back to the standards directly.

6 So the experts look at that lab documentation and
7 they also perform a detailed on-site review of the
8 laboratory operations. I've noted one of the assessors
9 mentioned there are close to 1,000 requirements in the
10 VVSG 2005, so it's obviously not feasible to look at
11 every requirement during the on-site assessment. And
12 the assessors, the team will select a sampling of
13 laboratory (indiscernible). They're actually looked at
14 in depth at the on-site assessment, and they will
15 generally pick the more complicated procedures. If you
16 can do the complicated procedures, it's very likely that
17 the lab has a system in place that can conduct the
18 simpler aspects. I will note that security
19 accessibility and usability test procedures are always
20 sampled and have been sampled at each of the on-site
21 assessments.

22 I've talked quite a bit about the on-site

1 assessment. This is prior to initial accreditation.
2 Accreditation is an ongoing process of assuring
3 continued competence. So a second on-site assessment is
4 conducted during the first renewal year. Typically what
5 will happen is that an assessment team will go back in
6 and look at areas where the laboratory had
7 nonconformities which they corrected the first time
8 around. Or if there are new requirements that have
9 evolved or have been identified within the first year,
10 those will be looked at, and every two years thereafter
11 to evaluate ongoing compliance with a specific
12 accreditation criteria. And as I note on the slide,
13 reassessments are also conducted and always conducted
14 when the requirements change. And that requires going
15 back out and actually looking at how the laboratory can
16 conduct tests to the new requirements.

17 It's important to remember that NIST conducts all
18 of these activities on behalf of the EAC and makes
19 recommendations to the commission based on NAVLAP's
20 technical findings.

21 I thought it might be useful -- and this is my next
22 to the last slide - to look at where NAVLAP fits in the

1 testing picture. There is testing, there should be, and
2 I believe that there is testing by the vendors during
3 design and development of systems. We touched on this a
4 little bit yesterday in the discussion as well. And the
5 vendor can use any laboratory, in-house laboratory, an
6 external laboratory, could use a voting system testing
7 laboratory if they wanted. It's completely their
8 choice. It is logical and good business to do testing
9 during design and development so that when you bring the
10 system in for final testing, you're pretty sure that
11 it's going to pass.

12 The use of a NAVLAP-evaluated and EAC-accredited
13 laboratory is required in what we call national
14 certification testing. And the EAC is responsible for
15 overseeing that program. Once a NAVLAP-evaluated, EAC-
16 accredited laboratory is listed by the EAC, the vendor
17 can choose any of the qualified laboratories, and then
18 must also, as you know under the certification program,
19 the test lab submits a specific test plan to the EAC
20 which is evaluated. That's another layer of scrutiny.
21 And then there's state certification testing -- the
22 state again can use any laboratory -- and finally

1 acceptance testing.

2 So you have many different cuts at a particular
3 voting system, depending on the state requirements.
4 From the NIST perspective, we say that all can benefit
5 from the use of accredited testing laboratories which
6 have demonstrated competence in a particular area. But
7 I just wanted to give you a feel for exactly where we
8 fit in the overall system.

9 And finally, contact information. Feel free with
10 any question to contact me. Sally Bruce is the chief of
11 the National Voluntary Laboratory Accreditation Program.
12 And I mentioned earlier John Crickenberger who's here
13 today -- John, could you raise your hand -- is the
14 Program Manager for this particular program. I also
15 have two websites. I mentioned we have all the
16 information about the laboratories that have been
17 evaluated and lists of the candidate laboratories at
18 vote.nist.gov. And there is comprehensive information
19 on the NAVLAP program on the NAVLAP site. Thank you
20 very much.

21 MR. CHAIRMAN: Thank you, Mary. Are there any
22 questions on the NAVLAP process? David?

1 MR. WAGNER: One of the things --

2 MR. CHAIRMAN: I'm sorry. And please, if everyone
3 could identify themselves. This is Bill Jeffrey asking
4 everyone to please identify themselves.

5 (Laughter.)

6 MR. WAGNER: Dave Wagner. One of the things we've
7 seen with some of the past test labs is that independent
8 reviews and experience in the field has turned up
9 defects or vulnerabilities, at least what appear to
10 violate the prior standards and weren't caught by the
11 prior test labs. During your assessments or during your
12 renewal assessments, is that something that you look at
13 to determine the root cause of why those defects weren't
14 detected by the test labs, and use that as an ongoing
15 feedback loop and assessment cycle to determine whether
16 the test labs are able to adequately evaluate for
17 conformance?

18 MS. SAUNDERS: The short answer to that is yes.
19 The complicated answer to that is that we work -- well,
20 we work very closely with the EAC who has the oversight
21 responsibility for these certification programs. And
22 actually, testing is a component of certification. The

1 test lab has a staff that actually conduct tests to the
2 relevant standards and requirements, and then it should
3 in effect be other staff that conduct the engineering
4 judgment, make the engineering call that that system
5 actually meets the requirements. And that's the
6 certification decision. So there's the testing which is
7 a component of the overall decision to pass the product.
8 It's a little bit archaic, but that's the -- so we would
9 go back in. If the EAC discovers issues in the field
10 either reported by a state or otherwise with particular
11 voting systems that have been tested by a qualified
12 voting system testing laboratory that works under the
13 EAC's certification program, we would take that
14 information into account in future assessments of the
15 testing laboratory's capabilities, as with the EAC in
16 oversight of their certification program.

17 MR. WAGNER: Dave Wagner again. Let me suggest
18 this feedback. You may want to broaden your net beyond
19 the EAC, because many of these defects have been
20 discovered not specifically by the EAC but by other
21 independent reviews.

22 MS. SAUNDERS: Okay. And are they not reported to

1 the EAC?

2 MR. WAGNER: Well, many of these are reported
3 publicly.

4 MS. SAUNDERS: Okay. Well, and I may be -- well,
5 from a technical perspective, I started to say I may be
6 splitting hairs. I'm not from a technical perspective,
7 so let me just say that. The EAC has oversight for the
8 certification program, and so they would take
9 responsibility for looking at the overall issues in the
10 field with voting systems, and then consulting with
11 NAVLAP to determine how we can tighten up our technical
12 review to address the testing portion. We look at the
13 general competence of the labs to conduct tests to the
14 requirements of VVSG 2005. We would take that
15 information into account. I'm just telling you about
16 the path by which it would come back to us. It's not
17 really the responsibility of NAVLAP as an accreditation
18 body for testing laboratories to go out and oversee
19 problems in the field, because NAVLAP is accrediting the
20 test lab to do a test of a particular system.

21 MR. WAGNER: I'll follow it up and then I'll leave
22 it at this. To the extent that those reports reflect on

1 the technical competence, which is what you are
2 evaluating during the NAVLAP accreditation, it does seem
3 it would be relevant.

4 MS. SAUNDERS: It is relevant. I'm just simply
5 talking about the path by which we would obtain that
6 information. In partnership with the EAC, this program
7 supports the Election Assistance Commission's
8 certification programs. So NAVLAP would not go out
9 independently and obtain information and then evaluate
10 without consulting with the EAC as to what the
11 significant issues are and how the EAC wanted to see the
12 certification program improved. We're a component of
13 the overall certification. NAVLAP's accreditation is a
14 component of the overall certification program. I'm
15 saying yes to you but just talking about the path by
16 which we would actually -- am I confusing it? Sorry.

17 UNIDENTIFIED SPEAKER: No. I think that's right.
18 I mean, I think the key is if there was an issue where
19 one or both of us saw that something that the test lab
20 did, the testing was inadequate, incorrect, something
21 like that, then it would obviously go back through the
22 NAVLAP process. Otherwise it would be under the EAC

1 certification program.

2 MS. SAUNDERS: We're saying we would look at it,
3 just --

4 MS. QUISENBERRY: Mary, I have a different question
5 for you. I understand from Dr. Jeffrey yesterday that
6 as we sort of head into the end game of this standard
7 that you'll be working with the subcommittees to help
8 draft the requirements. Could you talk a little bit
9 about issues that -- I'm trying to phrase this as openly
10 as possible. I'd like you to address it in the way you
11 want and I'm trying not to get the words wrong. But
12 obviously if we read a requirement that's not easy to
13 test or that has ambiguity in it, that would reflect on
14 the test that comes out of it. How does that impact lab
15 accreditation in terms of things like knowing whether
16 they're competent to assess the requirement or choosing
17 the expert, making sure they have appropriate expertise?

18 MS. SAUNDERS: Yes. It does. Thanks, Whitney, for
19 that question. First, yes, I'll repeat that we are -- I
20 confirm what Dr. Jeffrey said yesterday that the NAVLAP
21 Program Manager certainly, and where possible the
22 technical assessors that have gone out along with John

1 on the assessments, will meet with each of the
2 subcommittees to talk about essentially field experience
3 and where it's been easier to assess the laboratory's
4 competence to test particular parts of the VVSG 2005
5 and/or more difficult. So in-field sort of feedback for
6 the subcommittees as they draft the next version of the
7 VVSG.

8 And I'll only speak generally about some of the
9 issues. I mean, it's true that the assessors have said
10 in going out, some of the chapters of the VVSG 2005 are
11 easier to assess to, for a test lab to demonstrate that
12 they conduct the tests that meet spec, traces back to
13 the requirements of that standard, than in others. And
14 that's what they'll be discussing specifically with the
15 subcommittees.

16 MR. GAYLE: John Gayle, Secretary of State,
17 Nebraska. I just have some simple questions for my own
18 education. In terms of the initial certification, how
19 long a period of time is that good for, or is it --

20 MS. SAUNDERS: The initial accreditation --

21 MR. GAYLE: (Indiscernible) is accredited --

22 MS. SAUNDERS: Okay. Well, the NAVLAP technical

1 evaluation, it's renewable every year. At the end of
2 the first year, the year of first accreditation, there's
3 another on-site assessment, and then an on-site
4 assessment every two years. But the lab pays fees and
5 renews its accreditation every year essentially, and
6 then every two years the team actually goes out and
7 looks in depth at the laboratory's facilities and how
8 they're conducting tests. Does that answer your
9 question?

10 MR. GAYLE: Well, it does. And the only reason I'm
11 asking is in government we all run into situations of
12 independent contractors with the government who, as they
13 approach a date of potential renewal, they'll kind of
14 soup up their staffing and soup up their operation so
15 that they look good, but upon renewing the contact
16 sometimes you'll see the top people then get reassigned
17 some place else and finances shift to other priorities
18 of the whole company. And suddenly, you don't have what
19 you thought you had when you renewed the operation.
20 That's what I'm talking about.

21 MS. SAUNDERS: I have an answer for that. Any time
22 the laboratory makes any kind of staffing change that

1 affects their ability to conduct the testing in the
2 particular program for which they're accredited, they
3 have to notify NAVLAP. So any change in facilities, if
4 they buy a significant new piece of equipment, they've
5 got to let NAVLAP know. If they sell a piece of
6 equipment, if the laboratory manager leaves, if the
7 qualify manager leaves, or if there's a change in
8 staffing, that all has to be notified because that can
9 affect the accreditation.

10 MR. GAYLE: Thank you. That's exactly what I
11 wanted to know. Thank you.

12 MS. QUISENBERRY: So but that leads me to another
13 informational question. I assume that applies also to
14 subcontractors doing some of the testing? And how does
15 the quality stuff flow down to them?

16 MS. SAUNDERS: Okay. I mentioned in one of the
17 slides that non-core testing can be subcontracted to
18 other accredited laboratories. So certainly where
19 NAVLAP has a program -- for example we have a program
20 for labs that do electromagnetic ability testing. If a
21 voting system testing laboratory subcontracted to
22 another NAVLAP-accredited laboratory, that laboratory is

1 covered by the same requirements that the voting system
2 laboratory is: a change of personnel, etc.
3 Accreditation to 17025 is the same general program
4 across accreditors, and there are other accreditors in
5 the United States that are internationally recognized
6 and are in arrangements with NAVLAP, have undergone peer
7 evaluations. So those -- and we'll put up a list of
8 accredited laboratories in all of those areas:
9 electrical, acoustical, etc., and the STL can pick from
10 any of those laboratories.

11 Now, the VSTL is also responsible for having a
12 process in place for ensuring that the subcontracted
13 laboratory is doing everything it says it's going to do.
14 And that's part of the VSTL's management system.

15 MS. QUISENBERRY: This is Whitney again with a
16 follow-up question. So does that mean -- so a lab that
17 performs just one test or that would be testing just one
18 part of the standard could be independently accredited
19 as a quality lab under NAVLAP as a way of sort of
20 putting up their flag to say, I'm interested in being
21 part of this?

22 MS. SAUNDERS: The non-core tests are the types of

1 tests that a lab performs on lots of different types of
2 equipment. So a laboratory that does electromagnetic
3 compatibility testing can test a voting system for its
4 radiated emissions, etc. As well they will test PCs and
5 other types of equipment, so its' the non-core tester,
6 those that are not unique to voting systems. And yes, a
7 voting system testing laboratory could either take that
8 voting system down the road to an accredited EMC
9 laboratory and have the EMC aspects of it tested.

10 MS. QUISENBERRY: So I just have to ask the obvious
11 follow-up question given my committee, which is what
12 about the kinds of tests that may not have existing
13 NAVLAP certifications?

14 MS. SAUNDERS: Well, as I said there are other
15 accreditors that operate to the same principles that
16 NAVLAP does that are internationally recognized. So
17 NAVLAP is certainly looking at -- it's not restricted to
18 NAVLAP accreditation.

19 MS. QUISENBERRY: No.

20 MS. SAUNDERS: But other accredited laboratories
21 that meet the same requirements of a NAVLAP-accredited
22 laboratory.

1 MS. QUISENBERRY: Sorry to be really tedious. I'm
2 obviously talking about usability and accessibility,
3 because what else do I talk about. If there are no 17 -
4 -

5 MS. SAUNDERS: Okay, well that's a core test
6 though. They can't subcontract that. The VSTLs must do
7 the usability and accessibility testing in house
8 currently. Now, if we want to discuss with NAVLAP and
9 the EAC about changing that -- but that's not something
10 they can subcontract at the current point.

11 MR. CHAIRMAN: Okay. If there are no further
12 questions, thank you, Mary.

13 UNIDENTIFIED SPEAKER: (Indiscernible.)

14 MR. CHAIRMAN: Yes. It was great. Thank you.

15 On the next section we're going to start now
16 talking about the cross-cutting issues. And I think
17 Mark Skall is going to be the emcee for this part. Oh,
18 you weren't planning to be?

19 MR. SKALL: That's fine.

20 MR. CHAIRMAN: Okay.

21 MR. SKALL: I wasn't supposed to (indiscernible).

22 MR. CHAIRMAN: Okay. At least, I've recruited him

1 as the emcee.

2 MR. SKALL: Okay. As emcee, I'd like to introduce
3 Bill Burr to talk about the innovation class.

4 (Laughter.)

5 MR. SKALL: Give him a round of applause, please.

6 (Laughter.)

7 MR. CHAIRMAN: Actually, Mark, you don't have to be
8 the emcee if all you're going to do is (indiscernible).

9 (Laughter.)

10 MR. SKALL: Well, maybe I can actually
11 (indiscernible).

12 MR. BURR: So this is an interesting subject. If
13 there's I think one thing that security people and
14 election administrators are mutually interested in, it's
15 that the '07 version or the new version of the VVSG is
16 not the final game or not the last act of the story
17 here. We have I think slightly different motivations,
18 which is to say that security people tend to think that
19 they have in their minds some new approach to security
20 that is better from a security point of view, from a
21 transparency, often, point of view. And election
22 officials it seems to me as a group don't like the

1 reliance on paper that the spec that we're proposing
2 offers.

3 So we were tasked at the last meeting to
4 investigate high-level requirement for defining a path
5 toward certification and approaches for reviewing
6 testing and certifying systems.

7 MR. SKALL: Can I just say something? So let me
8 use my prerogative as emcee now to -- I was speaking to
9 some of the TGDC members off line about this. I think
10 where we have some problems is when we talk about, in
11 our work here, when we talk about certification as
12 opposed to conformance. And Bill is reading for you
13 words that came out of the resolution. I believe our
14 job here, and I'd like to get comments on this, I
15 believe our job here is to put requirements in the VVSG
16 and they should be requirements that allow us to have a
17 path toward determining conformance to those
18 requirements. Certification is the next level up, it's
19 the EAC's domain, it's a separate procedure above and
20 beyond what we're doing.

21 I believe when we have resolutions that talk about
22 us doing work toward achieving certification or work

1 toward certification, we run afoul with what the EAC is
2 doing and we lose focus on what we're doing. My
3 suggestion would be to talk about conformance rather
4 than certification. I could easily come up with new
5 words in this resolution if everyone is amenable to it,
6 but I do believe we're losing focus and we're out of
7 scope when we talk about certification as opposed to
8 conformance.

9 So if we can maybe just get a couple of comments on
10 it, because I think it's an important issue. It came up
11 when Alan Goldfine made his presentation as well, the
12 fact that, I believe that resolution talked about
13 certification rather than conformance really clouds the
14 issues.

15 MR. JEFFREY: Yes. This is Bill Jeffrey. I'll
16 just echo. I think it's very, very clear under HAVA and
17 under (indiscernible) that we do not do certification.
18 They again -- we develop the guidelines and the ability
19 to do the conformance to that. So I agree and I
20 apologize that we're probably a little bit sloppy in the
21 wording of some of the resolutions, but it's definitely
22 out of the scope of the TGDC to be doing this

1 certification. So I agree with what you've described.
2 Is there any disagreement on the TGDC? I think that was
3 just a poor choice of wording on the resolution. So
4 okay. Thank you. And also as emcee, if could also
5 introduce yourself.

6 (Laughter.)

7 MR. SKALL: I'm sorry. Mark Skall, NIST, emcee.

8 MR. BURR: All right. Well, then let's just
9 continue briefly here with what we think the general
10 goals, or at least in our thinking what the general
11 goals ought to be. This is kind of motherhood, I think.
12 I can't imagine anyone actually objecting to this first
13 goal, as we want to be fair, accurate, transparent,
14 secure, timely, verifiable, and we'd like to do systems
15 that make election administration easier rather than
16 hard. So we spent some time thinking about, why would
17 you be doing this process rather than going through the
18 process that we're finishing now.

19 And so, you know, the first rule ought to be that
20 this is not a back door, that what you're doing here is
21 somehow different and doesn't apply to the VVSG specs
22 that we're completing. The other sort of -- there ought

1 to be a prima facie case that whatever this new
2 innovative thing is, that it's not excessively difficult
3 to deploy or complex to maintain, and so on. It ought
4 to at least pass the laugh test. And the same thing is
5 it shouldn't on the face of it just be extremely hard
6 for election administration to deal with. And from the
7 security point of view, what you're always worried about
8 is the people trying to exploit another process to sneak
9 something in that really couldn't get by in the first
10 place that is a weaker version of whatever you had, so
11 that it not be a back door.

12 MR. SKALL: Bill, just to focus the discussion. So
13 could you just try to concentrate on specific issues
14 that you need guidance on?

15 MR. BURR: Okay.

16 MR. SKALL: The things we talked about in the
17 break.

18 MR. BURR: Yes, I know. I was hoping to get --

19 MR. SKALL: Yes, you can give a little
20 introduction, but I just want to try to make sure we're
21 focused on specific things that we want feedback on as
22 well.

1 MR. BURR: Well, I've got a slide coming up here
2 that --

3 MR. SKALL: Okay.

4 MR. BURR: -- that will lead to some particular
5 feedback and discussion in one area. We have, I guess
6 that's again pretty much motherhood. One thing I think
7 everybody will agree on is that we have a lot of stuff
8 in the current VVSG that ought to be applicable to most
9 election systems, and that ought to just naturally carry
10 over. A lot of the usability testing and so on ought to
11 be pretty similar. And again, this is another way of
12 stating the back-door requirement.

13 So we've talked about an evaluation process that
14 ought to have a couple of stages at least. And there's
15 the possibility of using labs for certification or other
16 types of testing that can make it easy to get into the
17 market. And we want to allow performance data from
18 small-scale tests so that you might want some kind of a
19 limited certification for experimental purposes. But we
20 need some kind of ability to do this flexibly because
21 it's going to be a big enough burden to launch a
22 fundamentally new kind of a voting system.

1 And this is where, I don't know if feedback is the
2 right word, but I certainly wanted to have a little
3 discussion of a couple of things here that seemed to
4 generate some controversy. And I think it's just
5 misunderstanding really, which is the transparency of
6 the process.

7 The first bullet there, basically this is a matter
8 of religion now almost in the cryptographic community,
9 which is to say if you put two cryptographers in a room,
10 you've got at least three opinions on any subject. But
11 if you fill this room up with cryptographers, almost the
12 one thing you could be guaranteed that they would agree
13 on is that there's very little if any place for secret
14 or undisclosed algorithms in almost anything we normally
15 deal with. And so when we're talking about
16 cryptography, at least, we want fully-disclosed, fully-
17 revealed, universally examined algorithms. Dan?

18 UNIDENTIFIED SPEAKER: (Not speaking into
19 microphone.)

20 UNIDENTIFIED SPEAKER: (Indiscernible) you could
21 almost go a step further, because not only do the
22 algorithms have to be published and known so it's been

1 vetted among the community before you feel fairly
2 competent about it, but even the implementation. It has
3 to have been around for a while and tested, because
4 otherwise the algorithm might be okay and the
5 implementation might be faulty. So we're very
6 conservative before we would adopt a new implementation
7 for that reason.

8 MR. BURR: Well, fair enough. I'm sure that's
9 probably a good thing. It may be hard to do that in a
10 new innovative system.

11 UNIDENTIFIED SPEAKER: You know you could adopt a
12 standard cryptographic package implementation of some
13 algorithm, and the innovation would be more in the
14 application logic and the process and flow and all that
15 kind of thing.

16 MR. BURR: Well, fair enough. Then the other
17 corollary is that then there may be stuff in any kind of
18 an actual proposed product that people might not want to
19 publish on the web for anybody to look at or steal their
20 code, or whatever the issue is here. And then when
21 that's appropriate -- you know, we have some argument
22 about this internally, but that we can then resort to

1 expert review subject to nondisclosure when we need to.
2 And this is an area where people seem to have a lot of
3 angst.

4 MR. SKALL: Right. So the whole focus of
5 discussion, so the question is -- I think in the
6 innovation class the thinking is that the proposals in
7 general for the innovation class would be made public
8 and people could get a chance to bang on them and review
9 them. So does everyone feel comfortable with that or do
10 they see specific issues with that?

11 MS. QUISENBERRY: This is Whitney. Well, as a
12 complete non-expert in this area, I don't understand how
13 we could not require that it be published and disclosed,
14 algorithms, if we're talking about transparency.

15 MR. SKALL: Well, the only issue you'll have is not
16 in the cryptographic algorithms, but in the whole design
17 of the system you may find that the vendor or the
18 inventor will have added his file or something like
19 that. And they may wish to keep that under some kind of
20 nondisclosure which you do mention. So we would have to
21 be prepared to hear them out under that nondisclosure.
22 And of course if we were to adopt it for something like

1 voting systems, they would have to provide some kind of
2 a waiver or opening up of it for that purpose.

3 MR. CHAIRMAN: This is Bill Jeffrey. Just for
4 clarification, given the experience that you've got with
5 other systems that use cryptographic algorithms, can you
6 make very concrete an example of where a nondisclosure
7 agreement would even pertain so that the rest of us who
8 are not cryptographic experts would --

9 MR. BURR: I don't think it pertains in the case of
10 the cryptography itself. I suppose you can imagine that
11 the algorithm would be fully disclosed and carefully
12 tested, but that somebody had a really clever way to
13 implement it that he wanted to regard as a proprietary
14 secret possible.

15 MR. SKALL: Let me give you an example. Supposing
16 somebody would pose, and we have had people in the past
17 talk about ideas like that, some kind of a smart card
18 with cryptography in it. Cryptography would be some
19 standard algorithms that they would use, but the whole
20 concept of the packaging of the smart card and how it
21 would be used in such a way that somebody could come
22 into some voting booth and do their stuff in an

1 anonymous way and verification and all that stuff, that
2 whole wrap of how that would work might very well be
3 patentable, trade secret, etc.

4 MR. BURR: What I think actually is (indiscernible)
5 in terms of cryptography. The issue is not with the
6 cryptography, and the security of the system -- well it
7 depends on -- the innovation class might rest very
8 heavily I suppose on some essentially cryptographic
9 concept. But in reality the security of most systems is
10 1% or 2% cryptography and 98% everything else. And I
11 think it's in the "everything else" that we're more
12 worried about making code public. You know, there's one
13 school of thought that thinks that if you're going to
14 have a voting system, you ought to have to publish all
15 your source code on a whatever.

16 MR. CHAIRMAN: Before we start going too far, let's
17 get focused on this issue.

18 UNIDENTIFIED SPEAKER: Yes. I was going to say, we
19 are very deep in the weeds here and I'd like to pull us
20 back up a bit, and sort of offer a way of thinking about
21 this, the whole concept of innovation class that is not
22 entirely about security. I understand that there's a

1 lot of interest in security and some very specific
2 areas, but I don't think that's actually the biggest
3 issue that's facing us. It seems to me that one of the
4 things that we struggled with as we drafted the VVSG '05
5 and as we've continued to work the draft this version is
6 that what we really want to do is say, make a system
7 that makes good elections, and here are some aspects of
8 good elections. But you can only write a standard. You
9 can't test "be good". You can only test specific
10 requirements. So what's kept us here for a couple of
11 years has been trying to get down from, do good
12 elections, to, and that consists of the following --
13 what was it Mary said -- 1,000 requirements, specific
14 requirements.

15 So one of the ways to think about the innovation
16 class, it seems to me, is as an equivalent way of
17 meeting the high-level requirements. In Section 508,
18 which is the Federal Accessibility Procurement
19 Requirements for Electronic and Information Technology,
20 there's a concept called equivalent facilitation. So
21 there are some very specific guidelines about what makes
22 a piece of technology conforming to 508. But a vendor

1 could say, I believe that I've met the goal of enabling
2 the goals of 508, the high-level things, which is, shall
3 be accessible to people with a list of disabilities, in
4 a different and new way. And there are some ways of
5 evaluating that. And I think in a way that's what we're
6 saying here, is if you look at the beginning of -- well,
7 certainly in our section but I think all of the
8 sections, they all start with, in order to do this, we
9 have written these requirements.

10 And I think what we're saying in the innovation
11 class is that someone could come back to us and say, I
12 have a different way of meeting this. And so there's
13 two questions before us, one of which is not really our
14 problem, which is how do you evaluate whether they've
15 met it. And that it seems to me is mercifully not our
16 problem. But the thing that is our problem is how do we
17 write a piece of this standard that says, and in
18 addition to, if you have a -- I think all of the caveats
19 you listed were good ones. There has to be a good
20 reason for going down an alternate path. But if you can
21 prove that there's a good reason for considering your
22 new solution in an alternate way, we'll be interested in

1 hearing it.

2 I have no idea how to draft that requirement.
3 That, NIST people, is what you're here for. But I think
4 that's the goal of this, is to be able to say -- we
5 would not all be sitting here I think for so many years
6 if there weren't some fairly intractable problems in
7 making good requirements for election equipment. And I
8 think that we have done great work, but I think it's not
9 perfect work and I think that the questions that the
10 community in general has been wrestling with are
11 inevitably going to turn up new and innovative ideas.
12 And we want to be able to assure that they're not
13 precluded simply because we didn't think of it and
14 write requirements specifically for it.

15 MR. SKALL: Mark Skall, NIST moderator. I think
16 that's a great point, because if you read the resolution
17 it doesn't specifically say what the purpose of the
18 innovation class is. So I think we're at least reaching
19 closure on this, that clearly it's to meet high-level
20 requirements in the VVSG through new and innovative
21 technology. Do we all agree with that? I think that's
22 paraphrasing.

1 MR. CHAIRMAN: I mean, I think that was very much
2 the sense of the discussion (indiscernible).

3 MR. SKALL: Yes. But it (indiscernible). Correct.
4 And one of those high-level requirements I presume is
5 software independence. And this could be used as a way
6 to have new and innovative systems that are software
7 independent. Would you agree with that?

8 MR. BURR: I'm not sure I entirely do. I think if
9 you're going to say innovative, I think you need to
10 think back -- we really need to think about whether
11 software independence is truly a high-level requirement
12 or whether software independence is a way to get there.
13 And so I think this may actually be one level above
14 software independence frankly. The high-level
15 requirements of security, software independence is a way
16 to guarantee security.

17 UNIDENTIFIED SPEAKER: Yes. Security.

18 MR. BURR: But the high-level requirement is really
19 sort of security.

20 UNIDENTIFIED SPEAKER: And there's a high-level
21 requirement that says, shall be accessible, that may
22 have nothing to do with security, but the phone voting

1 systems I think are an example of something that wasn't
2 on the table when we started working on punch cards, but
3 is perhaps an innovative way of doing it. One of the
4 things that we were challenged with was when those
5 systems came out, were there any new requirements that
6 were needed to meet them. Well, in a situation where
7 we're not sitting in session making a new thing, how
8 does someone not wait eight years for the next
9 regulatory cycle?

10 MR. CHAIRMAN: Well --

11 MR. BURR: Well, fair enough. Let me suggest that
12 a group of security people tasked with this thing is
13 going to see it in security terms, right. A surgeon,
14 they're going to look for something to take out. And
15 we're security people. We're going to see this in
16 security terms. And it's really a higher-level problem.
17 So maybe we need to elevate this above the security
18 committee somehow.

19 MR. JEFFREY: Well, let me remind people we're in
20 the cross-cutting issue section of the agenda.

21 (Laughter.)

22 MR. JEFFREY: I should have let you see the agenda,

1 I guess. Ron first, then Dan, then Patrick.

2 MR. RIVEST: Ron Rivest. So I think we're agreed
3 that the innovation class is there to allow vendors who
4 come up with other ways of meeting the high-level
5 requirements of what a voting system should be about to
6 get a system tested and eventually certified. And I
7 commend NIST on the work that they put into thinking
8 about this issue. There's a white paper that's posted
9 on the TGDC website which outlines a proposed testing
10 procedure and (indiscernible) we're talking about
11 conformance on that. And I think there's good though
12 into that. It's a multi-stage procedure, and to my mind
13 the two think points are sort of agreeing that the
14 innovation class is about allowing vendors to propose
15 other ways of meeting the high-level requirements, and
16 then having a testing framework for evaluating that.
17 And a multi-stage procedure, as this white paper
18 outlines, which starts out at the prototype stage and
19 even the design stage and the prototype stage and then a
20 final testing stage is a conformance testing procedure.
21 It seems to me the right kind of framework is just
22 something we need to discuss. But I think, you know,

1 it's a more complex procedure than to just try to meet
2 the published standards, because you don't know exactly
3 what issues are going to come up. So having a staged
4 approach to me is the important point of what we're
5 doing here with the development of the procedure for
6 handling new -

7 (END OF AUDIOTAPE 5, SIDE A)

8 * * * * *

9 (START OF AUDIOTAPE 5, SIDE B)

10 UNIDENTIFIED SPEAKER: -- be software independent.

11 Is that --

12 MR. RIVEST: I think that's a great question. This
13 is Ron Rivest again. I think the issues that we need to
14 address there is the issue of independent dual
15 verification.

16 UNIDENTIFIED SPEAKER: Okay.

17 MR. RIVEST: That's the one kind of system we've
18 talked about which is outside of the software
19 independent class where you may have two systems maybe
20 produced by different vendors, which check on each
21 other's work. That's an interesting class. I think
22 that work in that area would be interesting to see. I

1 don't know whether it's this committee's role to look at
2 that more carefully, the EAC. There's a lot of hard
3 issues trying to make that work from a business
4 viewpoint, from an election official's point of view.
5 You've got two suppliers, how do you -- who's
6 accountable if something goes wrong, etc., etc. So it's
7 not obvious to me that this is a viable (indiscernible)
8 but that's the one place where I personally would be
9 interested in seeing some exploration of possible
10 innovation, new designs in that area that's outside of
11 the class of software independence.

12 UNIDENTIFIED SPEAKER: Okay. So you may have an
13 IDV system that --

14 (Off the record.)

15 UNIDENTIFIED SPEAKER: -- would encourage people
16 to, you know, think out of the box and attack some or
17 all of the problem, you know, to make it better for
18 disabled individuals, make it better for administrative
19 people, make it better verifiable, some aspects of it or
20 all of the above. And so when we do that we want to
21 back up a little bit in terms of saying, what we really
22 care about in the guidelines if someone's going to do

1 something really fundamentally innovative would be those
2 top-level requirements. And somehow or other we would
3 encourage those ideas and the guidelines would say, so
4 forget optical scan and DREs, and let's take the top-
5 level objectives of what you want to have when you
6 conduct an election. And if somebody comes forth with
7 some better idea, we're open to see it, evaluate it, and
8 test it. And they would fall under the guidelines at
9 this higher level if indeed they passed all those tests.
10 I think that's the general idea, so they wouldn't be
11 precluded just because they don't look like an optical
12 scan or a DRE looks today.

13 MR. CHAIRMAN: Patrick?

14 MR. GANNON: The concern I would like to address is
15 I think the balancing of issues here, of one, how do we
16 encourage innovation, and two, how do we make sure we
17 have a transparent process that lead to fair elections.
18 And, you know, observing over the last few years of
19 introduction of new technology such as the DREs, the
20 fact that it appeared to the public and to others that
21 there was code, there were things that were hidden, that
22 you couldn't tell, a lot of fear came about in terms of

1 whether or not those systems really were being used in
2 conducting fair elections. And so while I'm certainly
3 aware of the need to protect the proprietary code and
4 things like that that would enable innovation, I'm not
5 sure that having NDAs is going to lead to that kind of
6 transparency that is needed. And so one thing I'd like
7 to understand is, if this is viewed as an alternate path
8 to the current process, are there places in the current
9 process where NDAs, non-disclosure is appropriate, or
10 that's not at all allowed and therefore it shouldn't be
11 allowed in this alternate path. So can anybody address
12 whether or not NDAs are in fact a part of a normal
13 certification process?

14 UNIDENTIFIED SPEAKER: Again, I think if we can
15 stop thinking about certification but conformance, I
16 guess this is still an issue because when we talk about
17 conforming to the innovation class, this would still be
18 a requirement for conformance. So I guess we really
19 need closure on this then. Is this --

20 MR. CHAIRMAN: This is Bill. Can you try to
21 articulate very clearly what it is that you need closure
22 on?

1 UNIDENTIFIED SPEAKER: Okay. Let me try phrasing
2 it and, Bill, you could correct me. The goal of the
3 innovation class is to put some sort of requirement in -
4 - this is the hypothesis -- that would in fact make the
5 submissions available to the public to review. We will
6 figure out the details as far as NDAs and things like
7 that, but we need to I think get closure on whether in
8 fact that's a goal subject to various IP and other legal
9 considerations we'll have to take care of. Do we all
10 agree that that's something we want to accomplish to
11 make the innovation class submissions available to the
12 public, rather than just for instance, the test labs,
13 this board that perhaps may be reviewing it, or the EAC?

14 MR. CHAIRMAN: This is Bill Jeffrey. What would
15 the innovation class submission be? I'm sorry for
16 asking. I'm not quite sure what the really -- I think
17 from the sense of what I'm hearing, certainly first of
18 all I think the entire TGDC has discussed at both the
19 last meeting and during this one the vision for the
20 existence of an innovation class, something that would
21 encourage as opposed to discourage vendors from looking
22 at alternate solutions that we were not smart enough

1 (indiscernible) to have dreamt of, to again make the
2 system more usable, accessible, secure, etc. So
3 certainly the intent is there. So isn't the real issue
4 then how does the vendor make those aware? And rather
5 than slicing it and saying okay, step 1 is this, step 2
6 is this, step 3 is this -- I'm not sure we're going to
7 resolve that in a forum like this. There's the white
8 paper. That's a start at that. So are you just looking
9 for, do we agree that there should be this alternate
10 path, which I think we've already gone on record saying?

11 UNIDENTIFIED SPEAKER: I think our job over the
12 next month is to develop requirements for this
13 innovation class which would include substantive
14 requirements as well as procedural requirements, a
15 template, if you will. And that's something we need to
16 do. And we've taken a stab at it with this first draft
17 paper. The question is again -- so the answer to your
18 question, Bill, is we hopefully will know exactly what
19 it looks like by the time we go in July and deliver
20 this. We don't know it now. But the question is, is
21 this submission, this template we will produce shall be
22 publicly available. That's the only question on the

1 table, and if we could agree on that we could move on to
2 all the other subjects.

3 UNIDENTIFIED SPEAKER: I think to a certain extent
4 the NDA issue is a bit of a red heron, because if you
5 look at the equipment you have today, embedded in a lot
6 of the equipment you're using proprietary operating
7 systems and other systems, protected intellectual
8 property. And if I were a young inventor or a young
9 company, I might have some super scheme with some
10 technology that I might want to be applying for a number
11 of purposes. And now I want to come forth and offer
12 this as a solution to voting, and so you might want to
13 make me promise that, first of all to evaluate it you
14 may need to sign a non-disclosure, because you may
15 choose not to like this technology. You may want to use
16 it in other domains. But I would have to of course
17 promise that in the area of sale for the government,
18 certain aspects of this are going to have to be freely
19 available to people who wouldn't be encumbered. And
20 they might be perfectly willing to do that for that
21 purpose, license it freely for that purpose, maybe not
22 for another purpose. So I think at the moment you can

1 cross that bridge when you come to it, but like in
2 everything else good ideas are like, you'd have some
3 kind of intellectual property encumbrance in it.

4 MR. CHAIRMAN: This is Bill Jeffrey. I'm sorry.
5 I'm going to try one more (indiscernible). Suggest the
6 wording of a resolution or a requirement as specifically
7 as possible.

8 UNIDENTIFIED SPEAKER: Submissions, innovation-
9 class submissions shall be made available to the public.
10 That's a requirement.

11 UNIDENTIFIED SPEAKER: Under the current
12 certification process or the normal path, source code is
13 reviewed by the testing authority but that source code
14 is not made publicly available to anybody who wants to
15 review it. Are we talking about a different path for
16 the innovation class that their source code would be
17 made public?

18 MR. WAGNER: Dave Wagner. I think maybe in
19 discussion of NDAs and some of these other things have
20 really taken us down a weird path here. In the white
21 paper, my understanding of what I think maybe we could
22 use feedback on, is the white paper outlines a multi-

1 stage process. And one of those stages would involve
2 the opportunity for public review of some aspects of the
3 submission, for instance, the approach. So for
4 instance, if a vendor comes up with an innovative new
5 approach, it doesn't look like anything that we had been
6 thinking about at this time now and when we were
7 drafting the standards, then one of the things their
8 submission should include is a description of how their
9 approach meets those high-level goals in some other
10 route. So I think if I understand correctly, one of the
11 things that one of the stages that possibly would
12 involve an opportunity for public review of is that
13 approach.

14 MS. QUISENBERRY: But isn't that -- I'm sorry. I'm
15 really now very confused about where the boundary is
16 between requirements and test methods. And it seems to
17 me what you've just described is a testing approach
18 rather than a set of requirements for the system to
19 conform to.

20 UNIDENTIFIED SPEAKER: No, I think it's a
21 requirement.

22 MS. QUISENBERRY: Well --

1 UNIDENTIFIED SPEAKER: It's a requirement that
2 something shall be made --

3 MS. QUISENBERRY: So does this mean that we can
4 write a requirement that says, the full results of the
5 conformance usability test shall be made public?

6 UNIDENTIFIED SPEAKER: All this requirement says is
7 the submitter has to agree to make it publicly
8 available. It doesn't talk to the quality of the
9 submission. Obviously the need to (indiscernible)
10 further requirements to talk about how well it meets the
11 high-level goals, but this is just saying --

12 MS. QUISENBERRY: No, I'm sorry. Can I just take
13 this out of this (indiscernible) for a moment? Does
14 this mean that we could write a requirement that says
15 that the full data of the -- that we're allowed to write
16 a requirement for usability test, and that we can also
17 require that the full data of that usability test shall
18 be, that they shall agree that they should make that
19 public? Because that's what that sounds like to me, and
20 I thought that that was completely out of scope. I'm
21 not actually suggesting that we do that, by the way. I
22 just, as an example of an existing requirement where

1 there is data contained in the test of that requirement
2 --

3 MR. CHAIRMAN: Actually, if I may interrupt for a
4 second, Whitney. This is Bill Jeffrey. I don't think
5 this issue has been teed up in a way that we can
6 understand what it is we're discussing, or maybe it's
7 just me. But I'm going to suggest that we call this,
8 that we stop discussion on this issue now, suggest that
9 the relevant people who want to put together, who need
10 further guidance to make progress are to go off in a
11 corner and then perhaps come back in an hour or two with
12 more specific discussion on this topic. Okay. Let's
13 actually move to accessibility and software
14 independence. And I'm going to ask you to come back
15 maybe right after lunch and be very, very specific and
16 clear as to what guidance we really need and what we're
17 talking about.

18 MR. GAYLE: Dr. Jeffrey, John Gayle. I did have a
19 question. Maybe it would be for Mark Skall. It's not
20 particularly on point, but in looking at some of the
21 things that have emerged like the Automark, just
22 suddenly there it was and on the market and available

1 and a totally innovative approach that allowed states
2 like Nebraska to keep the paper ballot that we wanted to
3 have, but we needed to have equipment that also met all
4 of the requirements for the disabled, handicapped, and
5 visually-impaired community. So the combination of
6 paper ballot, Automark and optical scan made a beautiful
7 combination of a voting system for us, which five years
8 ago nobody ever dreamed about. So I'm thinking, when
9 you talk about innovative class, something really
10 totally new.

11 And two concerns I have. One is what I'm reading
12 about here, it sounds like it's still trying to strap a
13 new innovative idea to the next iteration of standards.
14 And it's like a round hole and a square peg. It seems
15 like it has to be a little more flexible, a little more
16 imaginary than, say, well you've got to meet all these
17 things as Dan mentioned that pertain to equipment we're
18 familiar with, and you have a totally new piece of
19 equipment. So I'm struggling with that in terms of the
20 issue.

21 The other thing is, this is an innovative class
22 under the next iteration, which may not become effective

1 until 2010. Do we have this in the 2005 iteration?
2 What happens between now and 2010 or 2011? Is there no
3 ability for an innovative system to emerge in that
4 period of time?

5 UNIDENTIFIED SPEAKER: Well, let me address that on
6 a few different levels. Remember, what we're doing is
7 writing a standard. We call it a guideline, but in all
8 other ways it's really a standard in the sense it has
9 requirements. And what we're concerned with, what are
10 the requirements in that standard and how one conforms
11 to the standard. Everything else, meaning how things
12 progress on the marketplace, how they get certified, how
13 they get phased in, is out of the scope of what we're
14 doing. So I think part of the issue is certainly you
15 want to encourage innovation. And by the way, we also
16 allow in the standard extensions. We allow additions to
17 the functionality in the standard. That's in our
18 conformance clause. That's always been there.

19 So in the way people sort of have always had the
20 ability to work on innovative things, as far as what
21 happens in the meantime, there will be hopefully
22 tremendously innovative solutions that come across.

1 We're only concerned with requirements in the standard.
2 When it gets adopted it will then in fact allow those
3 innovative solutions, if they conform, to say we conform
4 to your standard, and allows them to be judged to see
5 whether in fact they can be certified by the EAC. So we
6 have to scope the issue.

7 We're talking about what's allowed in the standard
8 and what people can claim when they claim conformance to
9 the standard. If they have an innovation solution that
10 fits our requirements for an innovation class, they can
11 claim conformance to our standard, nothing more, nothing
12 less. Everything else builds upon the certification
13 marketplace development. They're all sort of ancillary
14 issues that are related to this, but not dependent upon
15 it, if that answers your question.

16 MR. CHAIRMAN: Okay. Thank you. Again this is
17 Bill Jeffrey. I assume that we're going to get back to
18 the innovation class at the end after we discuss the
19 others to give you some time to maybe better tee up with
20 what guidance you'll need.

21 I'd like to ask for the accessibility and software
22 independence.

1 UNIDENTIFIED SPEAKER: I'll be doing that with
2 Whitney.

3 MS. QUISENBERRY: And we're going to do it from
4 here. Alan is going to forward the slides for us.
5 While he's pulling the slides up, there's something I
6 just want to say as an opening to this, which is to
7 remind us that what we're talking about is future
8 systems. We're not talking about the systems that are
9 available today. We're not even talking about systems
10 that are certified under 2005. This was really a look
11 forward to where we want systems to go to meet both the
12 security and accessibility requirements.

13 So if we just put that as a subliminal slide, I'll
14 ask Bill Jeffrey just to flash that up every once in a
15 while if we get down in the weeds. We're really talking
16 about direction of motion, not current or past state.

17 UNIDENTIFIED SPEAKER: So we have a discussion here
18 of software independence and accessibility. And this is
19 joint with the Human Factors Privacy Committee that
20 Whitney chairs and the Security Transparency Committee
21 that I chair. And these two committees have had a
22 number of teleconferences together to review this issue

1 as directed by the TGDC. It's an area of cross-cutting
2 interest. We have identified software dependencies,
3 which I'd use another term for auditability really,
4 software independence as one of the main techniques to
5 achieve security in verifiable elections. And
6 accessibility is certainly important as well. And these
7 issues relate in an interesting way. And so we'll be
8 going through those two issues here.

9 There will be two parts to this presentation. The
10 first part I will review some of the notions and
11 definitions that are relevant, and then Whitney will go
12 through the four different approaches that we've
13 identified as trying to reconcile or relate software
14 independence and accessibility, and evaluating them so
15 their level of accomplishment of those goals and some
16 others as well. And then we'll actually get to some
17 proposed requirements language that we can discuss.

18 So I've got about nine slides here that talk about
19 definitions and the motivation for where we are.

20 MS. QUISENBERRY: The first two slides are just
21 reminders of why we're here which is the resolution that
22 we're working in response to, and to have a language

1 covering disabilities.

2 UNIDENTIFIED SPEAKER: (Indiscernible) slide number
3 2 is the resolution that motivates this work. So it's
4 the one that talks about software independence as being
5 one of the key requirements for the VVSG, but also
6 directs these two subcommittees to work together to
7 ensure that all voters can verify the independent voting
8 record that the software independence notion presently
9 involves.

10 And the next slide here is the HAVA regulation that
11 talks about accessibility, the voting system shell be
12 accessible for individuals with disabilities including
13 non-visual accessibility for the blind and visually
14 impaired in a manner that provides the same opportunity
15 for access and participation, including privacy and
16 independence as for other voters. So those are the
17 framework within which we're trying to do this.

18 So we have the first half that I'll be doing are
19 the definitions of terms here. Definitions are
20 important. We have many key terms, several of which are
21 new as of this committee. And it's important that we
22 all use the same vocabulary, and we've found places

1 where we actually differ in the use of the terminology
2 between the two subcommittees. And I'll note some of
3 that as well. But it's important that we have the same
4 vocabulary to talk about what we're trying to
5 accomplish, and then we'll talk about approaches and how
6 they -- next slide, please?

7 So software dependence, we've been though that a
8 number of times. The key note here is that of
9 auditability. You don't want a software bug or even a
10 piece of malicious software code to be able to change
11 the result of an election outcome in a voting system
12 that's software independent if an undiscovered bug or
13 even malicious code can't cause an undetected change in
14 election outcome. So some human involvement is
15 necessary for software independence.

16 Voter verification is the term which probably has
17 the most variations and interesting consequences here.
18 And that's one of the ones we talk about the most. So
19 this slide gives a definition: the capability of
20 individual voters to verify a record of their ballot
21 choices. That's voter verification.

22 And then we have two issues of, you know, which

1 record you're verifying, because on these voting systems
2 we have electronic records and paper records. And so
3 it's important to distinguish whether you're talking
4 about a verification process for the paper record or a
5 verification process for the electronic record. The
6 electronic record, you typically have a verification
7 process that's mediated by some (indiscernible) of
8 course. And in the Security and Technology Subcommittee
9 we've called that indirect verification typically. And
10 then verifying the paper record, we've typically called
11 that direct verification, at least when the voter is
12 looking at that piece of paper directly with their own
13 senses. It would be indirect if there were some
14 (indiscernible) technology again. So voter verification
15 as noted has two roles, one way for achieving software
16 independence, and another is just to build confidence of
17 an individual voter, that their votes are there.

18 So IDV as I noted at the last meeting is somewhat
19 more general, or it's only different than SI in the
20 sense that you may have two independent pieces of
21 technology which are checking each other. It's another
22 way of getting confidence of the result of an election

1 outcome, but it's a somewhat different notion. We'll be
2 talking a little bit less about that, although that's
3 one of the four approaches that we -- the FROG system is
4 such that you have a system where you create the ballot
5 and then another system where you can verify that the
6 ballot was correctly captured. And if those systems are
7 independently produced, you have some confidence that
8 things are working okay. So it's the Independent Dual
9 Verification.

10 Observational testing is something that was
11 mentioned by John Kelsey yesterday under a different
12 term. It's really spot parallel testing, if you will.
13 The idea is that a voter can check the operation of the
14 system during its operation. So a sighted voter, for
15 example, can check that the ballot being produced
16 corresponds to the choices that he made, or that the
17 audio transcript and the cryptic ballot correspond to
18 each other. That would be a more relevant notion for
19 this discussion of observational testing. So another
20 example would be with an electronic ballot printer, the
21 fact that a sighted voter can check that the electronic
22 ballot printer is printing the right ballot. That's

1 something that an election official could do as well as
2 a voter. So it's a bit like parallel testing, but it
3 really relates to the individual voting session and the
4 ability of a voter or even election official to check
5 that the operations is as intended.

6 We have this notion of review versus verification.
7 The way this slide works is terminology that's more
8 consistent with the way HFP uses it than STS, but as
9 long as we're clear here how we're using it. Review of
10 your electronic record, within STS we call that indirect
11 verification of your electronic record. But we can call
12 it review for the purposes of today's discussion. You
13 see your choices. You have the opportunity to confirm
14 that the electronic record is correct, verification,
15 then today we'll use that to mean review of the paper
16 record, some paper or some software-independent medium.
17 So that's the main thing we're talking about today, is
18 how do we make verification accessible.

19 And then I think I turn this over to Whitney who
20 will talk about some of the approaches that we've
21 examines.

22 MS. QUISENBERRY: So having hacked our way through

1 the definitions, I Just want to add one point that took
2 me a long time to understand about the definitions. SI
3 is a property of the system, and verification as we're
4 using it in this discussion is an action or a property
5 of the voter. So we actually added the verification
6 (indiscernible) to talk about it. And because we're
7 talking about accessibility specifically, you have to be
8 able to say that any voter that can use any system can
9 verify in order to have a yes in that column. So we
10 tried to back down off of the abstract definitions and
11 into looking at some architectures that either exist or
12 have been proposed. Not all of these are real systems.

13 There are approaches to creating a system. I will
14 attempt to avoid using names that refer to anything that
15 actually exists today. And we had four of them, which
16 I'll go through. Why don't we just flip to the next
17 one. And we looked at them in terms of what the steps a
18 voter would go through to complete the voting process
19 would be. And the first one is a system that produces a
20 paper audit record of some time and that uses the audio
21 review screen.

22 So in Step 1, all voters would mark a ballot using

1 some sort of electronic system and go through the review
2 process, that is, look at or listen to their review
3 screen and decide that they were ready to move forward
4 to the next step. At that point these systems would
5 typically create the permanent record, maybe a paper
6 audit trail, maybe (indiscernible), but whatever that
7 audit trail is. And at that point the voter has the
8 opportunity to verify that record. A sighted voter
9 would read the paper trail, and a blind, low vision,
10 second language, and a number of other types of voters
11 would take no action if that paper trail was not
12 accessible to them. Assuming it passed that step, they
13 would then cast their ballot, and auditing could rely on
14 paper ballots only or could rely on the resolution
15 between the two So that's paper plus audio review with
16 observational testing to ensure that the audio matches
17 the paper.

18 So the next one is paper with an audio recording.
19 The first step is the same. You mark your ballot using
20 the electronic system. The sighted voter can verify the
21 record, but someone who's using the audio record, we
22 would make a recording of that verification step and

1 preserve that recording in some way, cassette tapes or
2 digital recordings. And that ballot would be casting
3 and the audit could then use the audio record as well as
4 the paper records to perform the audit.

5 The next one is a paper ballot, a paper with a
6 read-back device, which will probably also have
7 observational testing. In this case you could mark your
8 ballot with an electronic system, but it could also be a
9 hand-marked ballot. And it would either produce a paper
10 ballot or it would produce an audit trail. Either one
11 of those two are acceptable in this, or are encompassed
12 in this approach. The sighted voter as always would
13 simply read the paper trail, but another voter, blind or
14 that whole list of things that didn't fit on the slide,
15 would use an assistive device to read back the ballot.

16 Now, it's still technology mediated, but because at
17 that point you can check it you've got a clear ballot.
18 You could perform normal logic accuracy testing the way
19 you would with any scanner. So you could take any
20 ballot, put it through that assistive technology to be
21 able to read it back through OCR, through Avarcode,
22 through any sort of technical way of reading that thing

1 back. This doesn't preclude any of those methods. And
2 you then cast the ballot. We're presuming it's a
3 (indiscernible) but actually I realize as I look at this
4 slide that it doesn't have to be, so that if you had a
5 paper audit trail that had a mechanical transport, that
6 it's somehow transported either to the (indiscernible)
7 if it's an external ballot or it's simply cast if it's
8 an electronic-type ballot. And the auditing then still
9 has a paper audit trail of a durable paper record or a
10 durable record of some sort that it can rely on. So
11 that's number 3.

12 And number 4 is the FROG system that Ron already
13 briefly described. But it involves two electronic
14 systems. The ballot is marked on one through the magic
15 of one of our communication protocols, is transported to
16 a second system where it's read back, it's verified on a
17 second and presumably trusted system. And the ballot is
18 cast and the auditing is the relationship between the
19 two systems. So you've got two systems that are being
20 used to verify each other.

21 And those are the four systems. Before we dive
22 into the next -- and just going to the next screen which

1 is -- I know this didn't reproduce marvelously, but we
2 tried to sort of line them up so we could see the steps
3 side by side, because we found we kept getting into the
4 weeds when we talked about each of them independently.
5 The next thing we're going to do is talk about which of
6 these systems we think are appropriate to pursue writing
7 requirements for.

8 UNIDENTIFIED INDIVIDUAL: Again, just to focus the
9 discussion, so you're looking for feedback on your
10 conclusions and picking one or perhaps more than one of
11 these to (indiscernible)?

12 MS. QUISENBERRY: Yes. We actually have slides
13 with real, honest-to-goodness questions on them for us
14 to discuss. So maybe during -- if we flip forward
15 through the slides to go through what the questions are,
16 we might want to come back to this slide and have this
17 slide resting on the screen for us to look at when we're
18 talking about it. In the paper, for anybody -- this is
19 not an accessible graph, but in the paper that was
20 distributed in the materials, there's a text version of
21 this chart as well.

22 So the questions we have before us -- oh, I'm

1 sorry, one more slide. The last thing that we did --
2 and this caused a lot of debates and there are many
3 footnotes and the footnotes are in the full paper -- we
4 looked at these four systems and said, are they SI, are
5 they VV, voter verifiable, are they accessible, and are
6 they auditable. How, what is the usability of audit
7 because that was the fourth and important set. Yes?

8 UNIDENTIFIED INDIVIDUAL: Yes, I'd like to say that
9 the audio recording could very well be considered
10 auditable. It's common practice in the brokerage
11 industry which does a lot of trading just based upon
12 verbal discussions to actually record those. And
13 they're actually being able to play those back and use
14 speech recognition and other kinds of technology to get
15 right to the point to where you want to be on that tape
16 to verify. And often times that is the auditing method
17 for verifying that a trade was done, and done per the
18 customer's request. So there is technology out there
19 that could be used for auditability.

20 MS. QUISENBERRY: Our concern, and the reason why
21 there's a no in the auditable -- and this is really the
22 usability auditable column -- is because at this point you

1 now have up to three records of that vote that have to
2 be reconciled. It wasn't clear whether you were
3 handling individual cassettes for each voter, which we
4 thought was a nightmare, and it wasn't clear that --
5 perhaps it should be yes with a huge asterisk. But as
6 we talked about it -- Helen, you're shaking your head.
7 Do you want to jump in? It just seemed like --

8 MS. PURCELL: Helen Purcell. My only comment would
9 be the comment that you just made about having
10 individual cassettes for each voter. It's just a
11 horrendous problem that I would see in managing an
12 election.

13 MS. QUISENBERRY: Right.

14 MS. PURCELL: There again, trying to get the poll
15 worker to accomplish that task.

16 MS. QUISENBERRY: Right. What do you do with those
17 cassettes in the voting process? I mean, there's just
18 enormous questions that we have that -- this may be a
19 future innovation class idea, but it didn't seem
20 instantly practical.

21 UNIDENTIFIED INDIVIDUAL: I'm not trying to sell
22 it, but they don't use individual cassettes with the

1 traders. They have 400 traders or more on the trading
2 floor and there's a single tape system that's accessible
3 and stored under the access.

4 MS. QUISENBERRY: So now you've got another non-SI,
5 because now it's back in technology. So -- yes?

6 UNIDENTIFIED INDIVIDUAL: (Speaker not a
7 microphone.)

8 MS. QUISENBERRY: Digital recording?

9 UNIDENTIFIED INDIVIDUAL: It was analog originally.
10 I believe some of it is now moving to digital because
11 analog voting system --

12 MS. QUISENBERRY: At any rate, let me just go over
13 the notes.

14 MR. CHAIRMAN: (Indiscernible) I'm sorry.

15 MR. WAGNER: I don't know if we're opening
16 discussion. David Wagner. I wanted to say there are
17 many -- we've discussed this at length. There are
18 really some major challenges here to making that
19 auditable. If you want to make it auditable without
20 relying solely on technology, that's probably very
21 burdensome both because there are many records and
22 because it takes a long time to listen through to these.

1 And if you want to, imagine a room full of recount
2 (indiscernible) where every tables is playing back and
3 you're trying to hear what's going on at your own table
4 and not at the 17 other tables in the room. I think the
5 auditability can be a real problem.

6 MS. QUISENBERRY: Well, rather than going over
7 these, because I think it will come up in discussion,
8 maybe what I should do is just pose the two questions
9 that we had. If you flip the slide forward -- we really
10 had two questions. One was, which is these --

11 (Off the record.)

12 MS. QUISENBERRY: -- should be considered, not
13 considered, footnoted for discussion by the committee.
14 So first of all, discussion of the conclusions that
15 we've reached including all the footnotes. Are there
16 systems that we should simply not be considering or not
17 worrying about at this point? And there was a fairly
18 long sidebar discussion about the use of assistive
19 technology in the verification process, and whether and
20 how that should be incorporated and how that fits into
21 the whole picture. And you guys may have many other
22 things you'd like to talk about. So we have in fact

1 (indiscernible) very nicely into the discussion.

2 So one recommendation we had as a joint committee
3 was that the FROG system is IDV and not SI. And
4 therefore under the current thinking of this committee,
5 it should simply not be considered except as a possible
6 innovation class, future consideration. And the other
7 was that as we talked about the audio recording,
8 although it seems technologically feasible, there were
9 so many challenges in so many different areas that we
10 thought this one was a sort of non-starter.

11 UNIDENTIFIED INDIVIDUAL: Just a quick question.
12 You say it's not SI, and I presume that's because we
13 can't ensure the independence of the two systems.

14 UNIDENTIFIED INDIVIDUAL: Yes.

15 UNIDENTIFIED INDIVIDUAL: Is there any way it could
16 be made software independent?

17 MS. QUISENBERRY: Produce a paper record.

18 UNIDENTIFIED INDIVIDUAL: Can you discuss that?

19 UNIDENTIFIED INDIVIDUAL: We're beyond that.

20 Beyond that.

21 UNIDENTIFIED INDIVIDUAL: So you feel it's by
22 definition the can --

1 MR. WAGNER: By definition it's not. I mean, the
2 notion of software independence means independent of any
3 software. It doesn't mean the two pieces of software
4 are independent of each other necessarily. So that even
5 if you had two teams that were totally isolated
6 producing the two parts of the FROG system, you'd have
7 an interesting system and it might very well be secure,
8 but it doesn't fall under the definition of the software
9 independence.

10 UNIDENTIFIED INDIVIDUAL: I would say the simplest
11 and most straightforward way to do it is the paper plus
12 (indiscernible) device. I mean, there's no doubt about
13 that. So if you want to go straight to the punch line,
14 I would say (indiscernible) a well-formatted piece of
15 paper that has optical character reads or whatever. If
16 we're going to do a device that does nothing but renders
17 that into audio in your --

18 MS. QUISENBERRY: That was our conclusion as well I
19 think, but not entirely.

20 UNIDENTIFIED INDIVIDUAL: I would second that.

21 MR. CHAIRMAN: Well, actually there's a
22 recommendation, a resolution, I should say, that I think

1 Dan's just proposed that's been seconded. To jump to
2 the chase, we're going to open it up for discussion.

3 MS. QUISENBERRY: Okay.

4 MR. CHAIRMAN: But just to note that there is a
5 resolution.

6 UNIDENTIFIED INDIVIDUAL: (Speaker not using
7 microphone.)

8 UNIDENTIFIED INDIVIDUAL: Someone read the
9 resolution for the record.

10 MS. QUISENBERRY: Oh, yes. Dan's got it.

11 UNIDENTIFIED INDIVIDUAL: I have the resolution?

12 MS. QUISENBERRY: Your resolution.

13 (Laughter.)

14 UNIDENTIFIED INDIVIDUAL: Oh, what I just said,
15 okay. It seemed to me that based upon the analysis I've
16 seen here, the most straightforward and easiest way to
17 accommodate somebody who is disabled and cannot read the
18 paper trail as verifiable would be a device that could
19 take in that paper device and render it into audio so
20 the person could hear it. And that indeed would be a
21 device that would not have software that could be
22 monkeyed with in the same way as easily. Some software

1 --

2 MR. CHAIRMAN: (Indiscernible) this is actually
3 part of the resolution. I assume the monkeying with was
4 not part of it.

5 (Laughter.)

6 UNIDENTIFIED INDIVIDUAL: I'm sorry. The
7 recommendation would be for disabled people to go with
8 the verified paper trail with a device that could read
9 the paper and render it to audio.

10 MR. CHAIRMAN: Before we have a vote on it, I'll
11 ask Alan to read it back so you may craft it in English
12 and (indiscernible).

13 MS. QUISENBERRY: Alan (indiscernible) so let me
14 just raise the other complexity, because I think it's
15 not fair not to since we all went through this. And
16 that is that there is an accessibility glitch in it
17 which you'll hear about from someone else. If you don't
18 hear about it from the EAC, you might as well hear about
19 it from me, which is that some of the systems that match
20 number 3, that is, paper plus a read-back device,
21 require transport of the paper. And that is also an
22 accessibility issue, and it's also an issue with respect

1 to the current VVSG '05. I know we're looking forward,
2 but I just want to raise that because it's an issue.
3 And Sharon eluded to it yesterday, which is that the
4 current draft says that if the normal procedure is for
5 voters to submit their own ballots, then the accessible
6 voting station shall provide features that enable voters
7 who lack fine motor control or use of their hands to
8 perform the submission.

9 Now, if we're looking forward and not worrying
10 about current systems, which we are, then it's
11 conceivable that you could have a system that did that.
12 You could have a, sorry to refer to them, but you could
13 have a system with, say, a paper roll where that paper
14 roll has a read-back device attached to it that says
15 independent read-back device. And that would roll the
16 paper out so no one has to actually touch the paper and
17 we get a read back for it. But just in the interest of
18 sort of (indiscernible) I have to say that because we're
19 going to hear about it, so we might as well.

20 And we actually have a possible requirement. If
21 you flip to slide 22 -- we asked the committee to draft
22 a possible requirement that would accommodate both of

1 these, which is to say if the accessible voting station
2 generates a paper record or some other durable, human
3 readable, and we might, as we say, software-independent
4 record for the purpose of allowing voters to verify
5 their ballot choices, then the system should provide a
6 mechanism that can read that record and generate an
7 audio representation of its contents. The use of this
8 mechanism should be accessible to voters with dexterity
9 disabilities. So that was again our trying to sort of
10 jump to the chase from the conundrum to draft some
11 language that could help guide future development.

12 UNIDENTIFIED INDIVIDUAL: And the word should was
13 done intentionally rather than shall in both places?

14 MS. QUISENBERRY: The word should was there
15 intentionally for the purpose of discussion by this
16 committee, whether that should be should or shall.

17 MR. CHAIRMAN: This is Bill Jeffrey. So this
18 resolution is essentially -- Dan's resolution is
19 subsumed within this one. So, Dan, any objections to
20 this?

21 UNIDENTIFIED INDIVIDUAL: No.

22 MR. CHAIRMAN: Okay.

1 MS. QUISENBERRY: So I think there's two things
2 that I think we need to talk about, and one is should
3 this be a should or should it be a shall, and the other
4 is do we like this. And I see Ron's light on.

5 MR. RIVEST: Thanks. Yes, Ron Rivest. So I'm
6 happy with this working as a should and I would like to
7 speak a little bit about some of the issues as I see
8 them, because they're complex and the motivation for
9 making it a shall, I'm very nervous about making it a
10 shall. Let me explain a little bit why. My main
11 concern is election integrity. Software independence as
12 I see is a step towards that. The ability of every
13 voter to verify their vote is not essential for election
14 integrity. We have statistical audits. We need to know
15 that the system is recording the ballots properly, but
16 if you have a fraction of voters doing it that's okay.
17 And the observational testing to my mind gives the kind
18 of integrity that I'm comfortable with.

19 So in terms of the categories of the systems that
20 we have up there, I'm comfortable with 1 and 3. 1 was
21 the one where the audio was read back, and there's a
22 process for verifying that the audio record as it's

1 played back to the voter actually corresponds to the
2 printed record, even though there's no direct ability
3 for an unsighted voter to verify the ballot. From a
4 security viewpoint, that's okay. Security is not
5 necessarily the only goal here, and it may be a goal of
6 the quality of access to the verification process, in
7 which case you may want to go for a system of a type 3.

8 But my personal feeling is that language like this
9 with a should, which allows you to choose whether you
10 want to support the individual verification of all
11 voters of the paper ballot, becomes a cost. And I'm
12 concerned about the cost if we made this a shall. This
13 is one of the few issues where I've had both election
14 officials and vendors call me up and say that they're
15 worried that this committee is going to mandate read-
16 back mechanisms because of the cost and complexity of
17 making that actually work. So while I'm not an expert
18 on what the cost and implementation would be, I'm
19 sensitive that there are concerns out there that this is
20 a difficult one to implement and make work well.

21 UNIDENTIFIED INDIVIDUAL: So let me ask just a
22 follow-up question. So you made a cogent argument for

1 why the first should should be a should, but there's a
2 second should in there. So the second should assumes
3 that in fact that mechanism was provided. If the
4 mechanism is provided, shouldn't it be then required to
5 be accessible to voters with dexterity disabilities?

6 MR. RIVEST: I guess that's right.

7 UNIDENTIFIED INDIVIDUAL: Okay. So if the
8 mechanism is present, then it shall be accessible to
9 voters with dexterity disabilities.

10 MR. RIVEST: I think so, but Whitney would be a
11 better person to --

12 UNIDENTIFIED INDIVIDUAL: Because that's the whole
13 purpose of a mechanism, which is optional under the
14 should. But if it's there --

15 MS. MASON: Yes, thank you, Mr. Chair. Tricia
16 Mason. I can't even say my own name. This causes a
17 quandary with myself trying to figure out how this is
18 going to work. Obviously the law says that it should be
19 accessible for all voters, and so when we look at paper
20 rolls and cut paper and some of the challenges that both
21 of them provide to very different populations, I'm
22 really in favor of this sort of requirement that does

1 say that it encompasses everyone. So for that reason, I
2 would like to see it say shall in both places, because
3 it's very difficult to say to someone who has dexterity
4 issues, well, sorry, you know, we say that we want all,
5 but maybe not just you. So I would be in favor of
6 seeing it say shall in both places.

7 MR. PIERCE: Thank you, Mr. Chair. This is Phillip
8 Pierce. And I'll kind of give another version of that.
9 The problem I see with if you make the first one a
10 should and the second one a shall, what you guarantee is
11 the first one will never happen, because why would you
12 ever provide a mechanism that can read that the record
13 can generate the report if it shall always have to be
14 accessible for voters with dexterity disabilities when
15 that technology may or may not be available. And so if
16 the technology's not available, then just don't make the
17 mechanism part of your system. I mean, am I looking at
18 that incorrectly, or is that the way that people are
19 going to handle that?

20 MR. CHAIRMAN: Secretary Gayle/

21 MR. GAYLE: Phil, I don't know that I'm going to
22 address that issue. But just as an election

1 administrator, in the use of the Automark, that is a
2 piece of equipment that we provide one at each polling
3 site. And not every piece of equipment at a polling
4 site needs to be handicapped accessible or visually
5 impaired accessible. I assume what we're talking about
6 here is that one piece of equipment in each polling
7 site. We're not talking about every piece of equipment
8 that is going to be implemented in a voting system. So
9 it's a really specialized class of equipment in which
10 case it makes a lot of sense to go with the paper and
11 read-back device, because you are focusing on a very
12 specific category of people who need the additional
13 facilitation allowed by the read-back device.

14 I was concerned about it at first. I thought maybe
15 we were talking about every piece of equipment that's
16 going to be put out there by a manufacturer that has to
17 have all of these qualifications, but then I realized
18 we're not talking about that. So if this addresses that
19 class of equipment, and I'm not sure it's that specific
20 -- is it in some way specific to that?

21 UNIDENTIFIED INDIVIDUAL: With this
22 (Indiscernible). (Speaker not using microphone.)

1 MR. GAYLE: That's what -- okay.

2 UNIDENTIFIED INDIVIDUAL: I might add that it isn't
3 necessarily just for the totally disabled. If you had a
4 station like that amongst the rest, it could very well
5 be that elderly people, people that have trouble
6 focusing and seeing some of this might find that they
7 would prefer to go to that station as well, as long as
8 you had it there. So it wouldn't even be singling out
9 people quite that way. It might be just a nice thing to
10 have handy for those people that have tried to
11 experience the dual verification had some difficulty,
12 and they'd rather go to that station.

13 MR. GAYLE: This is John Gayle. If I could just
14 comment, then in agreeing with Dan, it would seem like I
15 would agree with Patricia, that you should say shall in
16 both spots.

17 UNIDENTIFIED INDIVIDUAL: The comment that I would
18 make here is that there are I know -

19 **(END OF AUDIOTAPE 5, SIDE B)**

20 * * * * *

21 **(START OF AUDIOTAPE 6, SIDE A)**

22 UNIDENTIFIED INDIVIDUAL: I think we need to keep

1 that in mind because some states have gone completely
2 with that.

3 MS. MILLER: Alice Miller. I would agree with both
4 scenarios. I agree with Tricia as far as that it has to
5 be a shall if in fact this is a system that's being
6 placed in the voting place, and there isn't any other
7 system there. It must be a shall. On the other hand if
8 you have, as we do in the District of Columbia, a dual
9 process where you have accessible equipment and you have
10 what we have, is the optical scan as well, so the voter
11 gets to elect what system they want to vote on, the
12 accessible unit obviously is there for individuals with
13 disabilities and other kinds of limitations. The
14 optical scan is there for anyone who wants to use it as
15 well. But I think Tricia has a very good point. It
16 needs to be a shall if that is what we're looking at in
17 terms of only the one system.

18 UNIDENTIFIED INDIVIDUAL: I think I wanted to
19 clarify my understanding of the affect of what this
20 requirement would be. The ACCVS is a slogan for the
21 Accessible Voting System. So Secretary Gayle and the
22 others who mentioned this, you're absolutely right.

1 This requirement would only apply to machines that were
2 submitted for use as that accessible voting system. On
3 the other hand, I just want to make the pragmatic point
4 that if we're talking about what vendors are going to
5 build, I think it's entirely plausible that vendors who
6 are going to build, let's say, a DRE, that they may well
7 decide they're going to build one DRE product and submit
8 it for use as the accessible voting system, or for use
9 for jurisdictions who want to use DREs for all their
10 voters. I think it's very plausible that vendors might
11 do that rather than say, I'm going to build two separate
12 DREs and I'm going to put them both through
13 certification separately. So, you know, pragmatically,
14 for folks who are worried about costs and about the
15 impact of this on the machines, the DREs or other
16 machines they will be using for all voters, I think it's
17 likely that this would have a follow-on effect more
18 broadly on this broader class of machines, even though
19 that requirement is specifically crafted to only apply
20 to the ones that are submitted as accessible.

21 UNIDENTIFIED INDIVIDUAL: Mine is sort of a
22 question to start with. First of all, it would be my

1 understanding that there is no system currently
2 available that meets this requirement, including the
3 Automark. And so that is precisely where it places us
4 in a quandary as to whether it should be a shall or a
5 should. On the one hand, I would agree that if it is
6 not a shall it's not likely to get developed. If it is
7 a should, or on the other hand if it is a shall, it
8 isn't clear that it can be developed and in what
9 timeframe it can be developed and be a product that is
10 both usable, reliable, durable, etc., etc., etc.

11 UNIDENTIFIED INDIVIDUAL: On not necessarily voting
12 system, but if I'm not mistaken there are some systems
13 for blind people with (indiscernible) where it does one
14 of two things. It either generates, which we didn't
15 discuss here, a perforated Braille kind of a printout
16 that they can read, and in some cases a system that
17 actually plays back faxes and things like that for them
18 to hear. I'm not sure of that, but I believe that's the
19 case. So that would mean there is some equipment not
20 now adapted for voting systems that could probably
21 perform this way.

22 MS. QUISENBERRY: So if I could --

1 MR. CHAIRMAN: Yes. Go ahead. I'm sorry.

2 MS. QUISENBERRY: If I might actually address the
3 question you raised, which is (indiscernible). So this
4 is the horns of the dilemma, which is -- here's how I've
5 been thinking about it. We know that the current
6 equipment out there won't meet this, but we also know
7 that there's technologies out there that could meet it
8 if we wanted to. And this is supposed to be a forward-
9 looking version. So if we want to talk about pointing
10 forward, I think that two shalls is the way to point
11 forward. And the other thing that, I want to just
12 address what David said which is that we would likely
13 start to see people, vendors merging their machines and
14 have a, a system which is accessible. And I would like
15 to applaud that as a direction, because if you go back
16 to the very first resolutions from the Human Factors and
17 Privacy Committee, which have really been very valuable
18 in guiding our work, one of them was the concept of
19 universal usability, which is that to the extent that we
20 can make systems more accessible for more people, we
21 have served elections better.

22 One of the things we know is that while there are

1 people with acknowledged specific disabilities, with an
2 aging population there are many people who have either
3 unknown, undeclared disabilities, or who simply would
4 benefit, that the features of an accessible system will
5 help others.

6 One of the issues that's come up before our
7 subcommittee is cognitive disabilities. While we
8 acknowledge them, it's very hard to write specific
9 requirements for the broad range of cognitive
10 disabilities. But we also know that making systems more
11 usable for everyone and more accessible for everybody
12 also helps people with cognitive disabilities by simply
13 raising, or lowering the barriers I guess would be the
14 right way to say that. So I actually would love to see
15 a world in which we ended up with a, a voting system
16 that didn't have to be multi-channel. And I don't think
17 this is this next version, so this is a little
18 visionary. But that would be to me the real end goal,
19 would be to be able to have a system that everyone that
20 can use that we can afford that was auditable, that was
21 -- so to me this begins to point us towards that. And I
22 don't think it's inconceivable.

1 And the last point I want to make is that very
2 often in my world of general technology product
3 development we develop a product and then we say well,
4 how are we going to make it accessible for those people,
5 how are we going to add, bolt on some stuff. And in
6 fact in the case of verified voting, we actually
7 literally have things bolted on the side. But if you
8 start from the beginning knowing that your goal is to
9 make something which is software independent,
10 verifiable, accessible in all manners, then maybe you
11 think about the design problem differently, and that
12 this helps frame the discussion towards understanding
13 accessibility as a core requirement.

14 MR. CHAIRMAN: David Wagner?

15 MR. WAGNER: David Wagner. I want to address the
16 claim I heard that no existing machine would meet this,
17 and that's not my understanding. My understanding is
18 that for instance, if you want to mention specific
19 systems on the market, the Automark would meet this
20 because they Automark has the capability to take a
21 marked ballot, insert it, and read the marks the ballot
22 had generated, i.e. representation of the contents. If

1 we want to talk about DRE systems, my understanding is
2 that none of the major DRE systems with VVPAT would meet
3 this. So if we take the existing DRE systems, they
4 would need to be redesigned or retrofitted or something
5 to meet this. If we want to talk about optical scan
6 systems and a precinct count optical scanner, my
7 understanding is that most of the major existing
8 precinct count optical scan systems do not meet this,
9 but I believe there may be one or two systems out there
10 where the optical scanner actually produces an audio
11 output as it is scanning them. And so those may need
12 this.

13 MS. QUISENBERRY: I just got a note from the
14 committee that says that also the vote-by-phone systems
15 also have a mechanism by which the paper ballot can be
16 read back, and which also meets dexterity requirements.
17 So maybe we're not as far away from this as we think,
18 and maybe looking at something that has that four- to
19 six-year window is feasible.

20 MR. CHAIRMAN: Phillip?

21 UNIDENTIFIED INDIVIDUAL: I would like to respond
22 to David's comment because I'm not as familiar with the

1 telephone system, so that's something I would need to
2 investigate. But the Automark I would not consider to
3 be software independent as it actually is using the same
4 election definition when it is verifying the ballot that
5 it used to mark the ballot. So what you would have is
6 if somehow the candidates were in a different order on
7 the ballot, then what the feedback was being given, it
8 would both mark it and verify the ballot differently
9 than the way that ballot would actually be counted. And
10 so I do not believe that the Automark would meet this
11 definition of software independence.

12 UNIDENTIFIED INDIVIDUAL: May I respond to that?

13 MR. CHAIRMAN: Phillip.

14 UNIDENTIFIED INDIVIDUAL: I'm sorry.

15 MR. PIERCE: Thank you, Mr. Chair. Phillip Pierce.
16 The other thing that I would like to kind of direct us
17 toward is not looking at this solution as something that
18 makes access available for what we usually narrowly
19 describe as persons with disabilities, because the other
20 group or class of people that this really will provide
21 assistance for are people with language barriers that
22 maybe English is not their primary language. And that

1 printed ballot may not be something that they really are
2 able to look at and to competently say this captures the
3 intent of my vote, as opposed to being able to read it
4 into an audio system and then be able to verify their
5 vote in the language that they so choose.

6 MR. CHAIRMAN: Ron?

7 MR. RIVEST: I wanted to respond to Paul's point.
8 So the definition of software independence, something
9 like the Automark, an electronic ballot printer would be
10 software independent in the sense that the paper is
11 there as a record, independent of what software produce
12 -- the fact that the software may be shared with the
13 verification system introduces a real concern. And I
14 think we have to ask -- but it doesn't technically
15 violate the definition of software independence because
16 you could audit by other mechanisms. But I think you're
17 raising a great point, which is what's the point of this
18 auditing step. And I want to emphasize, there's no
19 security point here really for this. I mean, it gives a
20 warm feeling that you've got the ballot.

21 There's two things: is the ballot there, and does
22 it cover what you intend, does it express your

1 intentions as a voter. And if you're weary of software
2 problems and technological bugs, verifying the ballot
3 with the same software essentially that you created the
4 ballot with as you correctly suggest doesn't add any
5 additional confidence to the fact that the ballot
6 correctly expresses your intent. So from a security
7 viewpoint, I don't feel that it adds a whole lot. The
8 fact that the ballot is there and can be read, you can
9 probably do by other means as well.

10 So I think the value of this mechanism for a read
11 back from a security viewpoint is really marginal. It
12 gives you some warm feeling that the ballot is there and
13 that maybe it's correct. But, you know, the
14 observational testing that the ballot creation procedure
15 is producing the right kinds of ballots in my mind
16 adequately satisfies those needs. So I think we have to
17 be clear about what you're trying to accomplish here and
18 why. And you raise a very good question, you know, why
19 are we doing this? Is it really giving us the kind of
20 confidence, is that what we're looking for? That's what
21 you're looking for out of the step. You're right to say
22 that without some sort of independent system you're not

1 getting it.

2 UNIDENTIFIED INDIVIDUAL: And I think the question
3 also is, or at least as I've understood the question, is
4 what means can we provide to people with disabilities
5 who can't read the ballot the opportunity to verify
6 their own ballot. That was my understanding of where
7 we're going here, and I will continue to assert that the
8 Automark doesn't provide that capability to anyone. I
9 take that back. It provides that ability to someone who
10 can manipulate the ballot and who can see the ballot.
11 They can verify their own ballot.

12 MR. CHAIRMAN: Tricia?

13 MS. MASON: Mr. Chairman, I would like to move an
14 amendment to this so that both shalls will be should.

15 UNIDENTIFIED INDIVIDUAL: No, other way around.

16 MS. MASON: Should shall be shalls.

17 UNIDENTIFIED INDIVIDUAL: I'll second that.

18 MR. CHAIRMAN: Okay. There is a resolution on the
19 table that in a second I will say is what's up on the
20 screen that now is up on the screen that if the ACCVS
21 generates a paper record or some other durable human-
22 readable record for the purpose of allowing voters to

1 verify their ballot choices, then the system shall
2 provide a mechanism that can read that record and
3 generate an audio representation of its contents. The
4 use of this mechanism shall be accessible to voters with
5 dexterity disabilities.

6 The resolution is on the table and it's been
7 seconded. Any further discussion on this resolution?
8 Actually on the resolution, not on the amendment.

9 UNIDENTIFIED INDIVIDUAL: We voted on an amendment,
10 right?

11 UNIDENTIFIED INDIVIDUAL: (Speaker not using
12 microphone.)

13 MR. CHAIRMAN: Well, okay. I'm wondering, are
14 there actually two resolutions on the table?

15 UNIDENTIFIED INDIVIDUAL: No. We ought to have it
16 on my record. Tell me if I'm wrong. This resolution
17 was originally introduced by Dan Schutzer and was
18 seconded at that time. It was open for discussion.

19 MR. CHAIRMAN: Okay.

20 UNIDENTIFIED INDIVIDUAL: It's now been amended.

21 MR. CHAIRMAN: So thank you. Okay. So let me
22 rephrase what the vote is, but there will probably be

1 two votes, one right after the other. The first vote is
2 an amendment to the resolution on the table that the two
3 shoulds are now shalls, and that has been seconded. Any
4 discussion on the amendment? Paul, did you have -- I'm
5 sorry.

6 UNIDENTIFIED INDIVIDUAL: It's really a question.
7 I truly am in a quandary here because I definitely
8 believe that these shoulds should be shalls. But it's
9 the implementation. It's being able to give the vendors
10 the time to engineer, test, develop, and so forth. And
11 so I'm not sure that I understand the framework in which
12 this requirement would be implemented.

13 MR. CHAIRMAN: I'll weight in a little bit on this.
14 I actually think some of the arguments in terms of the
15 should versus shall were very compelling of making them
16 shalls and really providing that motivation. I'll echo
17 my people as well that this is an area where we believe
18 this is the right thing, and there are opportunities for
19 public comment as well to really extract out what the
20 feasibility of that is as an evaluation step. But I
21 think we'd be sending a very strong message as to what
22 our intent is by having shalls. Any other comment?

1 MR. GAYLE: John Gayle, Nebraska. Well, the only
2 comment I had was with reference to Paul Miller's
3 comments on the Automark. I think again is looking at
4 the equipment that is deployed now and not looking at
5 the equipment that may be deployed in 2010, 2012. And
6 so this sets maybe a higher mark for vendors to seek to
7 achieve for the accessible equipment. And I think it
8 makes good sense to me, and presumably there will be
9 another generation of Automark at that point that would
10 address that. Thank you.

11 MR. CHAIRMAN: Mark, did you want to say something?

12 MR. SKALL: Yes. Mark Skall, NIST. I just want to
13 remind everybody what we've always said is that this
14 VVSG is a complete rewrite intended for the next
15 generation of voting systems. It's not necessarily
16 intended for ones right now. It will be a few years
17 before they're in place. Even in the 2005 standard we
18 use as a yardstick, not what's available now but what
19 can be available as long as the technology is available.
20 Just wanted to remind everyone. That's the paradigm we
21 have been using.

22 MS. MASON: Mr. Chairman, Tricia Mason. Yes, I

1 think that that's exactly the point, is that if we
2 wanted things to remain the same and to use what was
3 available now, then none of us would really be here
4 talking about this.

5 MR. WAGNER: David Wagner. I wanted to -- maybe
6 this is too detailed, but I wanted to continue the
7 discussion on electronic ballot markers and
8 (indiscernible) like for instance the Automark. So if
9 the sense is that this resolution should be interpreted
10 so that something like the Automark which reads back and
11 uses the election definition to provide the read back is
12 not acceptable. And I just want to mention what I think
13 some of the consequences of that would be. That would
14 mean that presumably the machines would have to use OCR
15 and the OCR would then have to be followed by text-to-
16 speech conversion, which would have to use synthesized
17 speech, not recorded human speech that was provided as
18 part of the election definition.

19 So for instance, that would have consequences for
20 your DREs with VVPAT, because that read back would be
21 using synthesized computer voices which maybe some
22 people might like less. And the other consequence is if

1 people wanted -- there are some systems on the market
2 that take precinct count optical scanners and use the
3 mark sense capability of that to produce an audio read
4 back, so that someone could plug in head phones as
5 they're scanning their ballot and hear what the scanner
6 thinks is going to be there. Then that would also, I
7 think, be prohibited under this sense of that, because
8 that would be using mark sense rather than OCR.

9 MR. CHAIRMAN: First of all, let's stay focused on
10 the amendment, and then let's broaden the debate back on
11 the resolution. Is there any additional discussion on
12 should versus shall in these two locations? Okay, see,
13 now I'm going to call the question. Is there any
14 objection to unanimous consent on the two shoulds
15 becoming shalls?

16 UNIDENTIFIED INDIVIDUAL: Yes.

17 MR. CHAIRMAN: Okay. Then I'd like to call for a
18 roll call vote if I could ask the parliamentarian.

19 UNIDENTIFIED INDIVIDUAL: Chair? Mr. Chair?
20 Before we do this, I've had some clarification. It's
21 just, well the first sentence should read that it is the
22 recommendation of the Human Factors and Privacy and

1 Security and Transparency Subcommittees to accept this
2 requirement as agreed for the full committee.

3 MS. QUISENBERRY: So you're changing -- yes,
4 because this is actually draft requirements language,
5 and what you're doing is saying that the TGDC accepts
6 this language.

7 UNIDENTIFIED INDIVIDUAL: Yes, that the -- exactly.

8 MS. QUISENBERRY: I don't -- you can just say,
9 accepts this requirement.

10 MR. CHAIRMAN: Okay. Now you've confused the
11 Chair. Are you saying that there's -- are we still
12 voting on the amendment to change the shoulds to shalls?

13 UNIDENTIFIED INDIVIDUAL: Yes.

14 MR. CHAIRMAN: Thank you. Okay. Please, if I
15 could ask the parliamentarian for a roll call vote.

16 MS. ALLEN: Williams? Berger? Wagner?

17 MR. WAGNER: Si.

18 MS. ALLEN: Paul Miller?

19 MR. MILLER: Yes.

20 MS. ALLEN: Gayle?

21 MR. GAYLE: Yes.

22 MS. ALLEN: Mason?

1 MS. MASON: Yes.

2 MS. ALLEN: Gannon? Gannon? Pierce?

3 MR. PIECE: Yes.

4 MS. ALLEN: Alice Miller?

5 MS. MILLER: Yes.

6 MS. ALLEN: Purcell?

7 MS. PURCELL: Yes.

8 MS. ALLEN: Quisenberry?

9 MS. QUISENBERRY: Yes.

10 MS. ALLEN: Rivest?

11 MR. RIVEST: No.

12 MS. ALLEN: Schutzer?

13 MR. SCHUTZER: Yes.

14 MS. ALLEN: Turner-Bowie?

15 MS. TURNER-BOWIE: Yes (via teleconference.)

16 MS. ALLEN: Jeffrey?

17 MR. CHAIRMAN: Abstain.

18 MS. ALLEN: Nine yeses, one no, and two abstain.

19 We have a quorum to pass the resolution.

20 MR. CHAIRMAN: Thank you very much. Okay, so now

21 that we have passed that, let me ask before we get into

22 the discussion. I believe there is still now a

1 resolution on the table with this as it stands, except
2 with the requirements spelled correctly.

3 UNIDENTIFIED INDIVIDUAL: (Indiscernible)
4 recommendation that TGDC accept this. (Speaker not
5 using microphone.)

6 UNIDENTIFIED INDIVIDUAL: Yes.

7 UNIDENTIFIED INDIVIDUAL: (Indiscernible.)
8 (Speaker not using microphone.)

9 UNIDENTIFIED INDIVIDUAL: No, you voted on the
10 amendment.

11 (Multiple speakers not using microphone.)

12 MR. CHAIRMAN: Okay. So with this the resolution
13 on the table --

14 MS. QUISENBERRY: Can we just (indiscernible) it is
15 the recommendation that TGDC accept this language as a
16 requirement?

17 UNIDENTIFIED INDIVIDUAL: Yes.

18 UNIDENTIFIED INDIVIDUAL: And one additional thing
19 -- Phillip here, sorry -- is that if this is the
20 resolution that they had originally made, shouldn't we
21 refer back to it as the audio plus scanned paper record
22 recommendation? Is that correct? I mean, isn't that

1 encompassed in all of this? Isn't that the resolution
2 that we're actually talking about, is that we accept
3 that recommendation from the four as the one that we're
4 going to recommend?

5 UNIDENTIFIED INDIVIDUAL: I think (indiscernible).
6 (Speaker not using microphone.)

7 MS. QUISENBERRY: I think it encompasses, I think
8 the language encompasses (indiscernible).

9 MR. CHAIRMAN: That's an automatic (indiscernible).

10 UNIDENTIFIED INDIVIDUAL: (Indiscernible.)

11 MS. QUISENBERRY: I just want to say something
12 about the discussion about what's acceptable as a read
13 back, because I think that's an issue that we've talked
14 about. And before we vote on this, we might want to
15 clarify it. I don't think that having -- you said that
16 maybe the (indiscernible) would be able to read it back
17 to you. I don't think that precludes it. To me the
18 read-back device is a piece of assistive technology that
19 acknowledges the fact that there are people who cannot
20 directly use their eyes to read the paper or for
21 whatever reason to do it, and we allow a system
22 technology.

1 The reason I think it's acceptable, and although it
2 pushes the boundaries of SI somewhat, is because the
3 purpose of SI is to ensure that this electronic memory,
4 which no one else can see but the voter, and which we
5 don't know what's going on inside the machine, can be
6 transferred to a piece of paper that can be directly
7 verified. When you're talking about reading back the
8 ballot, at that point, once that ballot goes in the
9 ballot box you could pluck any ballot, completely
10 anonymous ballot out of the box and double check it
11 against that assistive technology.

12 So you're able to test the equipment through
13 observational testing, through logic and accuracy
14 audits, and so on. It's only that moment -- once you've
15 gotten that vote onto paper, whether that's a permanent
16 ballot or a paper record, you can then check it because
17 you don't have to know who voted. You're only checking
18 the read back. At that point you're not checking intent
19 of the voter, you're checking match between the thing
20 you see on the paper and the thing you hear. Does that
21 muddy the waters?

22 MR. RIVEST: I'm (indiscernible) Whitney. So, you

1 know, does the read-back mechanism you -- Ron Rivest
2 speaking if I may.

3 MS. QUISENBERRY: Yes.

4 MR. RIVEST: So it seems that the point is to check
5 that the intent of the voter has been correctly recorded
6 on the paper. That's what SI is all about. It's just
7 you've got the two stages of trying to check that the
8 paper is at least a good a record as you can make it,
9 and then you have a process for checking the electronics
10 versus the paper because you're going to be counting
11 electronics primarily. So the point of voter
12 verification from a security viewpoint is to check that
13 the voter intent is correctly captured. I didn't
14 understand what you said about pulling the things out of
15 the ballot box, because the voters don't
16 (indiscernible).

17 MS. QUISENBERRY: I'm sorry. What I meant is that
18 the -- I'm sorry. This is just such a -- it's hard to
19 even get the words out clearly. One of the problems
20 that we're facing is that it's hard to check an
21 electronic system marking the ballot and it's hard to
22 check the computer memory. So in a VVPAT system we have

1 a paper record that can be verified against the computer
2 memory. If you're talking about checking the paper
3 record itself, when I scan a ballot I take that record
4 and I use assistive technology to scan it back to me.
5 At that moment someone has to trust the equipment, but
6 that equipment is easier to test than the match of the
7 electronic memory because it's reading the permanent
8 artifact.

9 UNIDENTIFIED INDIVIDUAL: I think that if you're
10 talking about observational testing and so on, you've
11 got two things that are being potentially tested here.
12 One is the process that produces a printed ballot, and
13 the other is the process that reads back the paper
14 ballot. Both of those can be checked by observational
15 testing quite easily by voters who can see.

16 MS. QUISENBERRY: Yes. That's --

17 UNIDENTIFIED INDIVIDUAL: And I think that from a
18 security viewpoint you could use either one. It doesn't
19 matter too much, I mean, so that --

20 MS. QUISENBERRY: That says it much better. My
21 point is that when you're checking the second, when
22 you're using observational testing to double check the

1 read-back device, that one is easier to verify -- sorry,
2 I don't want to use the word verify. Never mind. Just
3 leave it where you were.

4 MR. CHAIRMAN: Let me make a constructive
5 suggestion here. There is a proposed resolution on the
6 table. There's also a question which I view as a
7 separate additional question of how to interpret that
8 language in light of the comment that Paul Miller raised
9 about this potential pitfall. What I suggest is rather
10 than trying to hash out that second question that Paul
11 Miller raised about how to interpret that language and
12 what we consider is acceptable, why don't we not try to
13 do that as a group, as a whole, in this forum.

14 MS. QUISENBERRY: Yes, thank you.

15 UNIDENTIFIED INDIVIDUAL: Why don't we take that as
16 something to go back and ask NIST to look at or look
17 together in the subcommittees, and to restrict our
18 discussion here as to this resolution without trying to
19 settle that interpretation question right now.

20 UNIDENTIFIED INDIVIDUAL: I think that's
21 constructive.

22 MS. QUISENBERRY: Yes. Perhaps we can call the

1 question.

2 MR. GAYLE: I'm not sure I understand, David, your
3 point. This is going to -- what I thought we were doing
4 was adopting this, it will then go to EAC, and EAC will
5 vet it with public comment and input from vendors,
6 election officials. Isn't that a better way to vet this
7 and make it more precise than to send it back to NIST
8 and then come back? Because that's a process that still
9 is going to require all of the vetting that EAC is going
10 to do anyway. So why all this redundancy? We like
11 this, we think it makes sense to us, let's adopt it, and
12 let it go to the EAC.

13 UNIDENTIFIED INDIVIDUAL: I think my comment here
14 was this resolution is providing, as I understand the
15 sense of TGDC, which is intended to help NIST draft
16 their standards, that we should, rather than trying to
17 make a decision now about whether NIST should draft
18 additional requirements to further support exactly which
19 kinds of mechanisms are acceptable in light of Paul
20 Miller's comments, that let's take that off the table
21 and separate that question of whether the TGDC supports
22 this resolution or not.

1 MR. CHAIRMAN: I'll note (indiscernible) a minute
2 ago there was also a call for the question. Is there a
3 second for that call? There is a second for the
4 question. So hearing that, I guess we have to vote on
5 whether or not the -- should we call the question? Is
6 that right, parliamentarian?

7 UNIDENTIFIED INDIVIDUAL: (Indiscernible.)

8 MR. CHAIRMAN: We have to call the question. So is
9 there any objection to unanimous consent of calling --
10 okay.

11 UNIDENTIFIED INDIVIDUAL: I'll withdraw it.

12 MR. CHAIRMAN: You withdraw it. Never mind.
13 Please continue, Paul. And if this discussion goes more
14 than a few more minutes, then I'm going to ask for a
15 break. In fact, why don't I do that anyway. Let's take
16 a 15-minute break and come back at 10:50.

17 (Break.)

18 MR. CHAIRMAN: Okay. While everyone is assembling
19 let me first catch up on a couple quick logistics. One
20 is that parliamentarian has informed me I need to reread
21 Robert's rules of order. So when Whitney withdrew her
22 resolution to close the question, there had been a

1 second. And I did not ask Dan if he was willing to want
2 to withdraw the second so the discussion could continue.

3 UNIDENTIFIED INDIVIDUAL: (Indiscernible.)

4 MR. CHAIRMAN: So you're withdrawing?

5 UNIDENTIFIED INDIVIDUAL: No, let's go for the
6 vote.

7 MR. CHAIRMAN: Oh, you want to go for the vote? So
8 there still is a -- even though you withdrew it
9 apparently --

10 MS. QUISENBERRY: I'd be willing to withdraw the
11 call for the question. I wonder whether we might now be
12 in general as a committee ready for the vote. So you
13 might ask that question.

14 MR. CHAIRMAN: Got it. Okay. Well, let me take a
15 step back in time. I'm glad it was a productive break.
16 So there is a motion that was on the table to call the
17 question. There was a second. Is there any objection
18 to --

19 UNIDENTIFIED INDIVIDUAL: (Indiscernible.)

20 MR. CHAIRMAN: -- first the discussion on closing
21 the question, which seems odd but I guess I have to do
22 that.

1 UNIDENTIFIED INDIVIDUAL: (Indiscernible.)

2 MR. GAYLE: Point of order, I don't believe you
3 discussed a call for the question.

4 MR. CHAIRMAN: Thank you. More proof I have to
5 reread Robert's rules. Okay. Is there any disagreement
6 to unanimous consent on closing the question? Hearing
7 none, the question is closed. We'll go to the vote.
8 There is a proposal on the table that has been made and
9 seconded that is up there for all to see. I will read
10 it as it's stated for the people on the teleconference.
11 It is the recommendation that TGDC accept this language
12 as a requirement. If the ACCVS generates a paper record
13 or some other durable human-readable record for the
14 purpose of allowing voters to verify their ballot
15 choices, then the system shall provide a mechanism that
16 can read that record and generate an audio
17 representation of its contents. The use of this
18 mechanism shall be accessible to voters with dexterity
19 disabilities. Is there any disagreement to unanimous
20 consent?

21 UNIDENTIFIED INDIVIDUAL: Yes.

22 MR. CHAIRMAN: Okay. I ask the parliamentarian to

1 please do a roll call vote.

2 UNIDENTIFIED INDIVIDUAL: This is for Resolution
3 01-07.

4 MS. ALLEN: Williams? Berger? Wagner?

5 MR. WAGNER: Abstain.

6 MS. ALLEN: Paul Miller?

7 MR. MILLER: Yes.

8 MS. ALLEN: Gayle?

9 MR. GAYLE: Yes.

10 MS. ALLEN: Mason?

11 MS. MASON: Yes.

12 MS. ALLEN: Gannon? Gannon? Pierce?

13 MR. PIERCE: Yes.

14 MS. ALLEN: Alice Miller?

15 MS. MILLER: Yes.

16 MS. ALLEN: Purcell?

17 MS. PURCELL: Yes.

18 MS. ALLEN: Quisenberry?

19 MS. QUISENBERRY: Yes.

20 MS. ALLEN: Rivest?

21 MR. RIVEST: No.

22 MS. ALLEN: Schutzer?

1 MR. SCHUTZER: Yes.

2 MS. ALLEN: Turner-Bowie?

3 MS. TURNER-BOWIE: Yes (via teleconference).

4 MS. ALLEN: Jeffrey?

5 MR. CHAIRMAN: Abstain.

6 MS. ALLEN: Nine yeses, one no, and two abstain.

7 We have enough for a passing of the vote, the
8 resolution.

9 MR. CHAIRMAN: Thank you very much. Okay. So
10 Whitney, was there any more on the accessibility and
11 software?

12 MS. QUISENBERRY: Can we have a break now?

13 MR. CHAIRMAN: We can have a round of applause, but
14 not a break. You may step out at any time.

15 UNIDENTIFIED INDIVIDUAL: Okay. Thank you.

16 MR. CHAIRMAN: Then what I'd like to do is move
17 onto the next subject, which is the paper rolls. And
18 Dan, are you reading --

19 UNIDENTIFIED INDIVIDUAL: I'll talk it from here if
20 that's okay. Well, we know the paper rolls that are
21 used in the verifiable paper audit trail, and we've
22 heard that of course it has various problems with it.

1 It's small and narrow and difficult to read in many
2 cases. It could violate the privacy by stirring the
3 ballots sequentially. It's difficult to handle and use
4 in audits, and there's many reports of problems with the
5 printers. So that much we know. Go to the next one.

6 We had effectively voted against them in the VVSG1
7 by requiring the privacy be maintained the fact that you
8 could actually to see the people go in. VVSG 2005
9 allows them, at least it provides the software
10 independent factor. And that's about all we've got
11 right now. Next?

12 Now, banning them outright is not necessarily a
13 good idea because if go and I ask for where's the voting
14 equipment that you can go out and buy, it's not there.
15 However if you sit there and you look at the bits and
16 pieces of components that are out there that could
17 create such a system, they're sort of out there. We see
18 desktop printers, we see copy machines that have some
19 very sophisticated things in terms of sorting papers and
20 collating them, things that actually could even help the
21 problem we were just talking about, in that you could
22 actually see a system where individual sheets of paper

1 could by voice command or pressing something go into a
2 machine automatically that could render the audio. So
3 this could even be adapted, not just to overcome some of
4 the limitations we're seeing in the paper roll. In
5 fact, even the paper rolls themselves could be upgraded
6 to overcome some of those limitations, but they also
7 might be able to help in some of the disabled kinds of
8 cases like the one we just voted on.

9 So it's sort of a quandary here in that you can't
10 say shall because this is out there and the people are
11 using it and it's serving a function. But on the other
12 hand, the technology is like almost there if it was
13 direct towards overcoming some of those limitations. So
14 because of that I have the following proposed resolution
15 if we have that here. Okay, that the TGDC recognizes
16 that paper rolls can be a challenge for voters, poll
17 workers, and audits. They can be difficult to handle
18 with an order to recount. The voting order preserve in
19 their own can be a danger to the ballot secrecy if good
20 election management processes are not followed. And it
21 can be difficult to make them accessible for blind, low
22 vision, low literacy, second language, or non-written

1 language motors. The TGDC also recognizes that no
2 alternative currently available solution exists that
3 meets the need to provide a paper record for a DRE
4 system. So therefore, the TGDC has determined that the
5 current paper roll situation is acceptable until an
6 alternative new technology becomes available. And the
7 TGDC directs this to develop more demanding requirements
8 for future paper audit trails that can solve the
9 problems posed by today's paper rolls.

10 So we're not requiring it, but we are sort of
11 directing this to help develop those requirements and to
12 encourage vendors so that somewhere down the line we
13 could have a better system.

14 MR. JEFFREY: Before someone seconds it, so I can
15 make this amendment, let me ask for friendly
16 (indiscernible) the technical note, but just instead of
17 directing NIST you should be directing the Core
18 Requirements Sub.

19 UNIDENTIFIED INDIVIDUAL: Okay.

20 MR. GAYLE: I'll second for purposes of discussion.

21 MS. QUISENBERRY: (Indiscernible.) (Speaker not
22 using microphone.)

1 UNIDENTIFIED INDIVIDUAL: All right. Instead of
2 NIST, CRT --

3 MR. CHAIRMAN: TGDC should not be directing. NIST
4 should be directing subcommittees' work.

5 UNIDENTIFIED INDIVIDUAL: TGDC directs CRT.

6 (Multiple speakers not using microphone.)

7 MR. CHAIRMAN: Okay. Are there comments,
8 questions? Yes, Ron?

9 MR. RIVEST: First of all I very much support the
10 direction this resolution is going. And paper rolls
11 have all the problems you stated, and if we can move
12 away from them, the quicker the better as far as I'm
13 concerned. I'm confused about the last bullet point on
14 your thing to develop more demanding requirements for
15 future paper audit trails. I'm not sure exactly what
16 requirements we're writing. Either the current paper
17 rolls will pass or they won't pass, and I'm not sure
18 because we get to put out writing requirements that take
19 a take-effective date of 2012 or something like that,
20 although I'd love to be able to write such things. So
21 I'm not quite sure what the effect of the last bullet
22 point is.

1 UNIDENTIFIED INDIVIDUAL: Well, I guess the intent
2 is that they help prototype the work with vendors to
3 develop paper trail solutions that can overcome the
4 limitations of the current paper trail, be those
5 solutions individual sheets, paper rolls that could
6 protect their privacy, sheets or rolls that are easier
7 to handle, perhaps some system of sorting and
8 mechanical.

9 UNIDENTIFIED INDIVIDUAL: Dan --

10 UNIDENTIFIED INDIVIDUAL: Yes, we're writing
11 requirements here mostly, so --

12 UNIDENTIFIED INDIVIDUAL: Could these be should
13 requirements? I mean, could it be that what CRT writes
14 is should requirements that point towards things we'd
15 like to see but are not willing to make absolutely
16 mandatory?

17 UNIDENTIFIED INDIVIDUAL: That's a better way of
18 phrasing it. Would you like to attempt to vet it?

19 UNIDENTIFIED INDIVIDUAL: I think that's the
20 interpretation I put on it.

21 UNIDENTIFIED INDIVIDUAL: All right. So direct CRT
22 to develop more demanding should requirements?

1 UNIDENTIFIED INDIVIDUAL: I think I'll turn my --

2 MR. WHACK: John Whack here. I just want to tell
3 you the second bullet is wrong, that there is or there
4 was a VVPAT system out that did use 8½ by 11 sheets of
5 paper. It had a printer sort of connected with the DRE
6 mechanism all on one housing. I'm not positive that
7 vendor is still in business, but it was out.

8 (Laughter.)

9 UNIDENTIFIED INDIVIDUAL: Technicalities,
10 technicalities.

11 MR. WHACK: Now, I'm not saying that that had
12 anything to do with the way that their mechanism -- it
13 could be they were a new vendor and they just had
14 obstacles. But the difference was that the voter had to
15 handle the paper. So I would suspect that the second
16 bullet perhaps could be modified to say that if you're
17 looking for a solution that doesn't require the voter to
18 handle the paper record. Anyway, I just thought I'd
19 mention that.

20 UNIDENTIFIED INDIVIDUAL: One other semi-procedural
21 point I'd like to bring up. I do not believe the last
22 bullet should be directing only CRT. This is at least a

1 multi-disciplinary problem. Certainly STS is involved
2 with audits and HFP, so it should be the three
3 subcommittees.

4 MR. CHAIRMAN: Okay.

5 UNIDENTIFIED INDIVIDUAL: (Indiscernible.)

6 (Laughter.)

7 MR. CHAIRMAN: Well yes, directs the subcommittees.
8 Directs the relevant subcommittees, not the irrelevant
9 subcommittees.

10 MR. GAYLE: Point of order, Mr. Chairman. I assume
11 these are what we call friendly amendments between the
12 (indiscernible).

13 MR. CHAIRMAN: Absolutely. Absolutely.

14 MR. GAYLE: All right.

15 UNIDENTIFIED INDIVIDUAL: (Indiscernible.)

16 (Speaker not using microphone.)

17 MR. CHAIRMAN: Thank you. I'm going to make you
18 parliamentarian, by the way.

19 MR. GAYLE: I have one other point of order, too.
20 I thought that the resolution simply was the last
21 portion of that, and Mr. Whack was addressing the issue
22 of whether or not there's some accuracy above whereas

1 clauses in a sense which aren't part of the resolution.
2 So don't those constitute argument and not part of the
3 resolution?

4 UNIDENTIFIED INDIVIDUAL: Yes.

5 MR. CHAIRMAN: So let me just clarify and make
6 sure, Dan, the resolution that you proposed really is
7 just the last bullet.

8 UNIDENTIFIED INDIVIDUAL: The last bullet. That's
9 a very good point.

10 MR. CHAIRMAN: Everything else is the preamble
11 motivation, so if you could actually move it, make sure
12 that you capture the resolution. If you just put title
13 of resolution in front of the TGDC direct. The last
14 bullet so yes, right there. Thank you.

15 Those who are on the phone, let me just clarify.
16 The actual resolution would be just the last bullet that
17 says the TGDC directs the subcommittees to develop more
18 demanding requirements for future paper audit trails
19 that can solve the problems posed by today's paper
20 rolls.

21 Is there any further discussion or questions on
22 this? Okay. There is a resolution. Is there a second?

1 UNIDENTIFIED INDIVIDUAL: Second.

2 MR. CHAIRMAN: Okay. There is a resolution and a
3 second. Secretary Gayle?

4 MR. GAYLE: Well, I'm still unclear. Looking at
5 what I see on the screen, it does still appear that
6 we're incorporating the first three bullets. Is that
7 correct? We're not, are we?

8 MR. CHAIRMAN: No. The resolution would only be
9 the TGDC directs the subcommittees. Everything else is
10 a preamble motivation.

11 MR. GAYLE: Okay. Just wanted to be sure.

12 UNIDENTIFIED INDIVIDUAL: Yes. Secretary Gayle,
13 our previous resolutions have often included a bit of
14 this kind of why we're doing it and what the constraints
15 are. Because otherwise we're left with something that's
16 so terse that it's a requirement.

17 MR. SKALL: Mark Skall, NIST. Just based on what
18 John Whack said, you may want to consider for that third
19 whereas to say, no alternative may exist that meets the
20 needs. Certainly allow us to watch (indiscernible).

21 UNIDENTIFIED INDIVIDUAL: I wonder if we could just
22 strike the second bullet. Whereas we recognize that

1 they're difficult, whereas we've determined the current
2 paper rolls are (indiscernible) financial alternative,
3 then maybe we take out that paragraph entirely.

4 UNIDENTIFIED INDIVIDUAL: That's fine with me.

5 UNIDENTIFIED INDIVIDUAL: (Indiscernible.)

6 (Speaker not using microphone.)

7 MR. CHAIRMAN: Okay. It's preamble, so it's not
8 part of the resolution. Secretary Gayle?

9 MR. GAYLE: I don't remember who the second was,
10 but I think the second needs to concede that as well.

11 UNIDENTIFIED INDIVIDUAL: (Indiscernible.)

12 MR. CHAIRMAN: I believe you seconded. Do you --

13 UNIDENTIFIED INDIVIDUAL: Yes.

14 MR. CHAIRMAN: Yes. So again the resolution on the
15 table, TGDC directs the subcommittees to develop more
16 demanding requirements for future paper audit trails
17 that can solve the problems posed by today's paper
18 rolls. Any further discussion?

19 UNIDENTIFIED INDIVIDUAL: (Indiscernible.)

20 MR. CHAIRMAN: Hearing -- get the title. Do we
21 need a title?

22 UNIDENTIFIED INDIVIDUAL: (Indiscernible.)

1 (Multiple speakers not using microphone.)

2 MR. CHAIRMAN: Okay. The title, Improving Paper
3 Rolls for Future Systems.

4 (Multiple speakers not using microphone.)

5 MR. CHAIRMAN: Thank you. The title is Improving
6 Paper Records. The resolution is unaffected by the
7 title, Improving Paper Records. There is a motion --
8 with no further discussion, let me ask, is there any
9 objection to unanimous consent? Hearing no objection,
10 resolution 02-07 passes. Thank you very much.

11 Let me also make announcements that the discussion
12 on the innovation class which we had earlier during the
13 break checked with the folks who are making the
14 presentation. They felt the discussion that we had this
15 morning though painful was quite useful, and they've got
16 the direction that they believe that the need to move
17 forward and will not require coming back for additional
18 guidance at today's meeting.

19 So the last topic of the cross-cutting issues is
20 the Epoll Books (phonetic spelling) and VVSG. And with
21 that, John, are you taking the lead?

22 UNIDENTIFIED INDIVIDUAL: We've lost the

1 presentation.

2 UNIDENTIFIED INDIVIDUAL: Oh, lost the
3 presentation. I guess we can't do this. I was frankly
4 thinking that I wouldn't get time to bring this up, and
5 I did want to modify one of the slides prior to the
6 discussion because I wanted to make sure we didn't go
7 off into kind of a boundaryless discussion.

8 MR. CHAIRMAN: If you would -- I think some of the
9 people would still benefit from a break that really
10 missed it. If you would like a couple of minutes -- a
11 three-minute investment now might save us an hour of
12 discussion. So I'm willing to make that trade and let
13 you clarify your viewgraphs before we go have the
14 briefing.

15 UNIDENTIFIED INDIVIDUAL: That would be -- I'd
16 appreciate that. Three, four minutes.

17 MR. CHAIRMAN: Let's take, we'll give you five
18 minutes just to make round numbers. Thank you.

19 (Break.)

20 (END OF AUDIOTAPE 6, SIDE A)

21 * * * * *

22 (START OF AUDIOTAPE 6, SIDE B)

1 MR. CHAIRMAN: Okay. This part of the discussion
2 for the emcee, if I could ask the emcee to -- thank you.
3 That was when we were breaking up that conversation.
4 Okay, John, you're on.

5 UNIDENTIFIED INDIVIDUAL: Okay. Good morning
6 again. And as always, it's a pleasure and honor to be
7 up here. The purpose of this discussion here, it's
8 genesis was a request from the EAC that we address some
9 issues with Epoll books. And it really got into perhaps
10 a broader question, which is what are the boundaries of
11 the VVSG that we're dealing with. And it also sort of
12 goes over into the privacy area. So I was happy to get
13 the extra five minutes to make some of my questions more
14 specific because I think that we can go in many
15 different directions.

16 One of the questions I threw out was should Epoll
17 books be allowed in the innovation class. And that was
18 supposed to be a joke. You're all supposed to laugh. I
19 threw that out because I figured we --

20 MR. CHAIRMAN: John, we'll work on your humor
21 later.

22 (Laughter.)

1 UNIDENTIFIED INDIVIDUAL: I try. Don't get any
2 respect. Voting system definition is what I'll start
3 with and I'll just say a few things about Epoll books,
4 some issues and then some discussion that hopefully will
5 be fairly focused.

6 Okay. We have a voting system definition in the
7 VVSG and I won't read the whole thing. It's up there on
8 the screen and it's in the glossary. And I underlined
9 and highlighted that ballot activation is part of the
10 voting system definition. I know that at least one
11 state, I think Pennsylvania, when they encountered Epoll
12 books said yes, they do activate the ballot so therefore
13 they fall under our definition of what we need to take a
14 look at for a voting system. And as written that would
15 be the same for the VVSG. So just wanted to get that
16 fact clear. And then that kind of leads into why there
17 are some issues we need to discuss.

18 The first bullet basically says what I just said.
19 And Epoll Books, if you don't know already, are in
20 essence kind of laptop computers. And they be basically
21 used to vastly improve the rate of checking in voters,
22 make things more accurate. If the voter is in the wrong

1 precinct, you can even print out a map. It's definitely
2 true that they are a real help at the polling site, so
3 we don't want to do things that would really take away
4 some of those great increases in productivity. But are
5 they covered under the VVSG, and certainly ballot
6 activation is something that is covered under the VVSG.
7 Epoll books also deal with in a sense voter registration
8 administration. They can be used actually to network
9 externally outside of the polling site.

10 And let's say a state wants to have precinctless
11 super polling sites basically, where you can go
12 regardless of where you live, what jurisdiction, what
13 precinct, and vote. Well, all these different sites
14 actually need to all know at the same time who showed up
15 to vote and who hasn't. You don't want the same person
16 going to two different places. So they're all networked
17 in a sense together so we kind of run into a boundary
18 position here with the VVSG. And how far do we want to
19 take things. Up to now we have stayed away from this
20 area for a number of reasons. I personally think that
21 the best reason right now is we have four months left in
22 our schedule and actually going in this area would I

1 think be impossible right now.

2 So I've got two more slides left. Some options and
3 then some questions for you. What should we do about
4 this? Here are some options. One is, we have kind of a
5 philosophy in a sense with the VVSG with some
6 requirements, in that they are big, strong, universal
7 requirements. And if they have to be changed a little
8 bit for certain reasons, then we do that. Otherwise
9 that requirement applies. So in other words, we have a
10 big requirement right now for privacy. Privacy shall be
11 maintained, it shall be observed. And we expect that
12 designers of voting systems and testers are going to
13 observe that.

14 Now, if we are to allow paper rolls, for example,
15 then that would probably require a specific exception to
16 that. And one option here, getting back to this issue,
17 is perhaps we need some additional requirements to
18 ensure privacy is protected, especially with ballot
19 activation because now we know that ballot activation is
20 being done on another laptop that could be networked.

21 Another option is to require some sort of an air
22 gap between the Epoll book and the voting station

1 itself. So in other words, by an air gap I basically
2 mean in a sense that the Epoll book itself not activate
3 the ballot, some other way of doing that. There are
4 smart carding coders that can be used separately from
5 the Epoll book. That would perhaps not be as convenient
6 in some sense, but it does have this air gap there. And
7 in some sense it could solve some of the issues we have
8 with the VVSG boundary, because under the draft
9 telecommunications requirements we have we don't allow
10 the voting system to be networked to external networks.
11 So we currently would not allow externally-networked
12 Epoll books under that interpretation of our
13 telecommunications requirement to activate the ballot.

14 Now, I listed an Option 3, but I said it's not an
15 option. We just do not have time to do this. So I have
16 two questions, and I adjusted the font for the second
17 questions because I was asked to bring this up. But I
18 tried to make it tiny and I can see I didn't make it
19 tiny enough because you can still read it.

20 (Laughter.)

21 UNIDENTIFIED INDIVIDUAL: But I think the very
22 first question is really what we need direction on. And

1 if we can get direction from you, and if it takes the
2 remainder of the day, but if we can just direction on
3 that first question then success. If we have time we
4 should go on to the second question. You may disagree
5 with me on that approach, but that's what I wanted to
6 do. So I'll end my slides here, and I put those up as
7 possible options. You may have others. But what I'm
8 really saying is, for the first question we could
9 essentially not put any Epoll book requirements in the
10 VVSG, but via the existing requirements in the VVSG
11 address some of the issues.

12 One option is allow Epoll books to activate the
13 ballot. Another option is allow them only if they're
14 not externally networked. I was a poll worker in
15 Maryland last election. We had three Epoll books at my
16 desk. They were networked together with Ethernet
17 cables, but they used a static copy of the voter
18 registration database. So it seemed to me that that
19 wasn't an external network connection. Another option
20 is beef up privacy requirements. These are not
21 mutually-exclusive options, by the way. Beef up the
22 privacy requirements regarding ballot activation.

1 Now another issue came up that's a little more
2 subtle, but that is yesterday John Kelsey had a
3 presentation on the sorts of audits that we want to
4 ensure voting systems are capable of -- I can't think of
5 the right word -- capable of supporting. So in a sense
6 if you had a situation where you've got an Epoll book
7 and it's activating the ballots but it doesn't print out
8 anything at that point, the only thing you get at the
9 end of the day is a printout or a screen shot of the
10 Epoll book that says I activated these many ballots.
11 Then in a sense you are trusting that computer to
12 basically have recorded everything correctly. And that
13 trust in the computer is what you then have to use when
14 you want to find out if the number of voters who checked
15 in matches the number of electronic records you have on
16 your DREs or whatever.

17 So Maryland saw that issue when I was at the polls
18 by every time someone checked in you got a piece of
19 paper printed out. And those pieces of paper were then
20 used at the end of the day to count up the number of
21 people who showed up versus the number of electronic
22 records. If you didn't do that you would be trusting

1 the Epoll book So that was another issue we wanted to
2 point out. And I'm not sure how to formulate a
3 requirement for that, but it seems that if ballot
4 activation is done in some way that there should be or
5 these must be some sort of simultaneous or
6 contemporaneous record created, they can't later be
7 changed by some computer.

8 So anyway those are some of the options for the
9 first question. And at this point we need direction.
10 I'll rely on my emcee to guide the discussion, but we
11 need some answers here. And I'd like to open it up.

12 MR. CHAIRMAN: Questions: Comments?

13 UNIDENTIFIED INDIVIDUAL: I think many of what
14 you're suggesting are good ideas. I think that the
15 Epoll books do introduce new privacy concerns because
16 they have a lot more information about the voter. And
17 we can make sense to make sure that their privacy
18 requirements and then make sure the voter's identity
19 isn't linked, isn't known to the vote-capture device. I
20 think requiring some paper slips that provide a record
21 for each activation to support the canvassing and
22 reconciliation process, I think that's a good thing, an

1 important thing to do. I am agnostic about whether or
2 not external networks -- I understand that there are
3 risks with external networking. There are also reasons
4 why some places may want to use them for instance for
5 vote centers. So I'm not going to take a position on
6 that one. And I might propose adding one more, which is
7 because the reliability of your system is dependent on
8 the reliability of E-poll books, I think it would make
9 sense that the volume tests which are intended to test
10 the system as a whole, if E-poll books are part of that
11 system then E-poll books should be part of what you use
12 during the (indiscernible) test.

13 UNIDENTIFIED INDIVIDUAL: So just to clarify, one,
14 two, three, four, which ones are you specifically in
15 favor of?

16 UNIDENTIFIED INDIVIDUAL: I'm supporting 3 and 4,
17 and I'm agnostic on one, Version 2.

18 UNIDENTIFIED INDIVIDUAL: Okay, so 3 and 4. Okay.

19 MR. CHAIRMAN: Ron?

20 UNIDENTIFIED INDIVIDUAL: I'm confused about what
21 number 4 means. So there's a record that's created by
22 whom, how, and for what purpose?

1 UNIDENTIFIED INDIVIDUAL: Well, what I'm talking
2 about is the difference between two situations. Every
3 time a voter checks in, if the Epoll book prints out on
4 a piece of paper this voter checked in and they're
5 authorized to vote, then in essence you've got the same
6 situation as if a voter is using a real poll book and
7 writing down that, you know, such-and-such a voter
8 showed up. And then you can use that at the end of the
9 day, you know, when you do your canvassing and
10 reconciliation of the poll book versus the number of
11 electronic records recorded. If the Epoll book is used
12 in another mode so that it does not print out that
13 contemporaneous record and at the end of the day perhaps
14 you print out that record, you don't have a situation
15 where a human has been keeping track of the number of
16 people who showed up to vote. So the risk being a
17 security person, the risk could be that the Epoll book
18 could add more people, could subtract more people.
19 You're relying on software there to make sure that --
20 well, you're trusting software basically at that point.

21 UNIDENTIFIED INDIVIDUAL: In any cases though, the
22 poll book system should produce a record of who voted,

1 how many people voted. So you get a printout at the end
2 of the day if it were not keeping a record
3 contemporaneously.

4 MR. CHAIRMAN: Paul, then David.

5 UNIDENTIFIED INDIVIDUAL: If I could just ask
6 everyone before they speak to say exactly which of those
7 options they're in favor of, preface their discussion
8 and then say what they like. Thank you.

9 UNIDENTIFIED INDIVIDUAL: Okay. I'll try. I'm not
10 sure about number 1 because I'm not sure I understood
11 what that one meant. But I probably tend toward being
12 against number 2. And as I understood the privacy
13 requirements, which is basically making sure that
14 there's no way to link the identity of the voter with
15 what their vote was, that process, I agree that we need
16 to ensure that that doesn't happen. And then requires
17 simultaneous paper record, and there's where I get to,
18 are we assuming an Epoll book system that uses a
19 signature pad that captures the signature
20 electronically? Or are we assuming a situation that
21 doesn't require a voter to sign in when they come to the
22 polling place?

1 UNIDENTIFIED INDIVIDUAL: Okay. If I remember,
2 I'll try to address them in the order you raised them.
3 The first option there is essentially ignore the draft
4 telecommunications requirements we have right now that
5 do not allow voting systems to be networked external
6 outside of the polling site. In other words, don't place
7 a restriction on this. We could have an Epoll book
8 linked up to the state voter registration database and
9 also activate ballots. That's one option.

10 Another option is allow them to activate the
11 ballot, but do not allow them simultaneously to be
12 linked up to an external network. Do not allow them to
13 be updating an external network. I'll just add a little
14 editorial there. You could think of a situation that
15 would be perfectly permissible under the requirements,
16 which would be use an Epoll book to access the voter
17 registration database as you normally would. And that
18 way all the different polling stations would be
19 synchronized with each other. But don't have it
20 activate the ballot. Use some other mechanism for
21 activating the ballot. There are other mechanisms that
22 can be used for activating the ballot, for writing to a

1 smart card, for example. So that's option 2.

2 Option 4, this really gets back to kind of a
3 software independence in a sense and what John Kelsey
4 was getting across yesterday in that he was basically
5 saying what's necessary for software independence are
6 the possibility of certain types of audits. One of
7 those audits is some way of making sure that you are
8 able to positively track the number of people who have
9 shown up, and compare that with the number of people who
10 voted, as indicated by the number of electronic records
11 on the DRE, for example. An Epoll book could do that
12 tracking for you, and at the end of the day it could
13 then issue a report. Do you want to trust that that
14 report is accurate or not? You could. It probably is
15 accurate. But the human is out of the loop there. The
16 human is not actually really doing much. That report
17 could add more people, it could subtract people, it
18 could change their names, whatever, or it could change
19 their party affiliation.

20 One way around that is to have the Epoll book print
21 out on a piece of paper, I've activated the ballot for
22 so-and-so. And those pieces of paper are the things

1 that then get reconciled with the number of people
2 who've shown up, just as in a sense a manually-created
3 equal book and the signatures in there are used in some
4 places.

5 UNIDENTIFIED INDIVIDUAL: So number 1, have you
6 gotten clarification, and number 2, could you just let
7 us know which of those you're now in favor of?

8 UNIDENTIFIED INDIVIDUAL: Well, since I don't have
9 an understanding, a reason to be concerned about having
10 the Epoll books networked, there are certainly benefits
11 to having them networked. And we'd be opposed to them
12 not being externally networked. The requiring
13 simultaneous paper record, again in our state we would
14 require a signature from anyone who comes to the polling
15 place. And so that would create an independent record
16 of the Epoll book, unless the Epoll book is also using
17 some sort of a path. That's the source of my question
18 on that one.

19 UNIDENTIFIED INDIVIDUAL: Well, if I can clarify,
20 first of all I'm not wishing to levy any requirements
21 on Epoll books. I'm really, these are requirements for
22 ballot activation. So I have nothing in there that

1 would limit the networking of Epoll books. It's all on
2 ballot activation.

3 MS. QUISENBERRY: So doesn't that mean that 4
4 should be off the table?

5 UNIDENTIFIED INDIVIDUAL: Four? Four is something
6 on ballot activation.

7 MS. QUISENBERRY: Okay.

8 UNIDENTIFIED INDIVIDUAL: And the procedure Paul
9 Miller uses satisfies that. And I want to stay away
10 from adding a procedure in the VVSG that says there must
11 be an election official procedure to do this. I want to
12 stay from that as much as possible, because I don't
13 think mandating these procedures -- but this issue does
14 arise when you have an Epoll book and you have the
15 capability to not have that procedure at all. So then
16 you do have to have some sort of requirement on ballot
17 activation that somehow or other says there has to be
18 some human involved doing some sort of contemporaneous
19 record keeping of who showed up. I don't know how to
20 write it yet, but it has to be there.

21 MS. QUISENBERRY: I just have a question about
22 number.1. And if I could get the question, then I might

1 be answering that as well. When you say activate the
2 ballot, are you talking about creating the activation
3 device for the ballot, or are you talking about actually
4 reaching out electronically to touch the DRE to --

5 UNIDENTIFIED INDIVIDUAL: I am talking in the case
6 of those voting stations that use like smart cards a --

7 MS. QUISENBERRY: Okay. So this is just that
8 instead of you're signing a poll book and then they can
9 go to a machine and put the smart card in, that somehow
10 that's all gathered up together And then you trans
11 port the smart card So it seems like the privacy issue
12 is the worry, because we know that people tend to put
13 too much information into things and not just the
14 information they need. And now that information is
15 accessible. That seems reasonable I guess if, to me
16 the air gap is the smart card.

17 MS. DAVIDSON: This is Donetta Davidson. I think
18 there are some things that we need to think about. You
19 know, obviously we are always concerned about the
20 privacy of the ballot And there's other things. If
21 you're always riding -- either there's got to be some
22 type of a protection for provisional ballots with a

1 piece of paper given a number, maybe then the system
2 gave a number so you have that closed off where you
3 don't know the voter, I mean -- that can be figured out,
4 somehow or another. But number 1, you always have
5 privacy of the ballot, but if they can't figure out how
6 to work that out, then it makes them not always utilize
7 the activation card for the elector, because you may
8 have to give them a paper provisional ballot in some
9 areas It depends on how they handle it. So it's very
10 difficult. I mean, we can write guidelines to states.
11 If you put in there that it's got to be private, well we
12 can write to that and make sure that that's done. The
13 network, as Paul says there's a great advantage to
14 having them network to the county. Changing address and
15 making sure you give the person the right ballot at the
16 right time obviously is always important, whether just
17 in their own precinct or what. But they are flagging
18 that voter that they voted. So anything that they can
19 do to update that voter's record immediately, then your
20 election results are more correct in the end, because
21 people are voting on the right person. Some people vote
22 outside the precinct.

1 The problem I see is in provisional. Somehow or
2 another we've got to know enough about that individual,
3 not to know their name but to know because in some
4 counties in some states, they require you vote part of
5 the -- I mean, you can't part of that ballot but not all
6 of it if they weren't qualified to vote on everything.
7 So you have them voting on president, congress, if
8 they're in the congress district, House, I mean Senate,
9 and their own maybe just statewide up. So anything below
10 that if they weren't qualified, or if there were things
11 even on that ballot, they either have to duplicate that
12 or pull that ballot back out before it's counted. So
13 provisionals have to be held at bay in the DRE until
14 after the election, and those can be worked.

15 MS. QUISENBERRY: So this is Whitney with a follow-
16 up question for Donetta, I guess, because you're
17 actually -- this is an area where I don't know enough
18 about it. Do smart card-activated devices now have the
19 ability to handle that? That is, is there any
20 difference between the smart card activating it now and
21 the smart card activating it activated by the Epoll
22 book?

1 MS. DAVIDSON: This is Donetta again. I was just
2 at a conference and I went to three vendors. They're all
3 working on putting that wall there so that the privacy
4 is kept, but right now if they're voting provisional, I
5 believe they have it where it's private if they're only
6 voting a regular ballot. They're qualified to vote,
7 they know they can vote today, and it should be counted.

8 Then the privacy issue is being taken care of. But
9 if it's provisional, it's not. And they may not even
10 have it where it's completely private now. You might be
11 able to track it back. But they're working on that.
12 They know that that is an issue.

13 MS. QUISENBERRY: Right. And the last question,
14 which is probably John, correct me if I'm wrong, but we
15 already have a requirement that the voting systems can't
16 be networked outside of the precinct during voting. So
17 this is my opinion. I'm not as worried about the
18 networking of the Epoll book, because it seems that
19 there are huge advantages to what has to be able to
20 connect. A central voting assisted place -- it's long.
21 It has to be network to fulfill its real value.

22 UNIDENTIFIED INDIVIDUAL: And that is fine, and I

1 don't have any intention of limiting that actually. The
2 question is, do you still want that system to activate
3 the ballot.

4 MS. QUISENBERRY: Well, if it's activating a smart
5 card and it's got privacy protections, I don't see why
6 not. The place where I would start to go, or would have
7 to think about it harder and I don't know where we would
8 -- I'd have to hear from the election officials for one
9 thing -- is whether you could have it networked from the
10 Epoll book directly to a DRE. That's the part that
11 would give me pause. But if what the Epoll book is
12 doing is creating a smart card, just as smart cards are
13 created now, I don't see the issue on the other side of
14 that firewall as long as there's privacy.

15 UNIDENTIFIED INDIVIDUAL: Yes, I agree with
16 Whitney. A direct network connection for the Epoll book
17 and the DRE would be very (indiscernible). I think the
18 information from the -- if I can answer the question, I
19 think the Epoll books networked together is fine. But
20 it's the information channel from the Epoll book to the
21 voting machine that's the critical one for privacy. We
22 need strong regulations on the privacy of that. That

1 really should be a one-way flow of information. There
2 should be no information flowing back from the -- so I
3 worry about you recycling the smart cards, the
4 activation cards. You know, there's a potential channel
5 there you have to worry about. I'd be happier to see
6 them just destroyed or something. So have that channel
7 be as one-way as possible, and strict regulations on the
8 privacy of that. Allow the Epoll books to be networked,
9 and I don't care about the paper one way or the other.

10 UNIDENTIFIED INDIVIDUAL: The issue that I think
11 you're touching on also is that if you're using a smart
12 card, then you have a larger bandwidth there to transmit
13 information. And a security person might say, okay, if
14 you're going to allow network to Epoll books, externally
15 network Epoll books to activate the ballot, perhaps it
16 should be done in a way such that it's only possible to
17 activate the ballot. It's not impossible to add other
18 information (indiscernible).

19 UNIDENTIFIED INDIVIDUAL: (Indiscernible) you need
20 activation information. You need maybe a way to turn
21 off the activation capability once it's put in the
22 machine. And you need maybe the provisional ID number.

1 That's about it.

2 MR. SKALL: Mark Skall, NIST. If I may with the
3 indulgence of the Chair ask that we continue this
4 discussion for another five or ten minutes, and then
5 someone perhaps suggest a resolution that might give
6 some clear guidance to these issues.

7 MR. CHAIRMAN: Well, there's still several people
8 who want to make comments, so --

9 UNIDENTIFIED INDIVIDUAL: No, I'm saying after the
10 comments.

11 MR. CHAIRMAN: -- it may take more than five
12 minutes. But --

13 MR. SKALL: Six.

14 MR. CHAIRMAN: So I'll just continue around.
15 David, then Paul, then Secretary Gayle.

16 UNIDENTIFIED INDIVIDUAL: Well (indiscernible) is
17 not a privacy thing. I thank you, Commissioner
18 Davidson, for your comments there. And I think they
19 probably should be interpreted to mean address privacy,
20 take into account those special needs for provisionals.
21 I really wanted to comment on point 4 about paper
22 records. It is a technical issue and I admit it's

1 fairly complicated. And maybe this isn't the point to
2 discuss it and maybe we don't need to resolve this now.

3 This addresses a risk, a particular kind of fraud
4 that was first brought to my attention by Mike Shamus.
5 And what's going on here is in today's systems, well we
6 all understand that security of your system depends on
7 not just the equipment but on the procedures. Today
8 those procedures for sign-ins involve humans signing
9 paper poll books typically. If we had equipment that's
10 intended to replace that procedure and to automate it
11 with a machine so that there's no human who is signing
12 something on a paper poll book. And then we have to ask
13 about the reliability of the records. We understand the
14 reliability of the records of signed signatures and a
15 paper poll book. The reliability of the records and the
16 number of voters in an E-poll book that's intended to
17 replace that is quite tricky. And the risk that Mike
18 Shamus mentioned was, you could imagine malicious code
19 in the E-poll book and in your voting machine, that at
20 the end of the day creates a whole bunch of fake ballots
21 that weren't actually cast by a voter and creates a
22 whole bunch of big records in the E-poll book to indicate

1 as though some additional voters had signed in and
2 stuffed the ballot box. And that's a kind of threat
3 that today is addressed by procedures, but if we move to
4 Epoll books would now become a new threat that would not
5 be addressed by procedures. So potential direction to
6 address that might be to consider requiring that Epoll
7 books must have the capability to provide little paper
8 slips so that it's possible for procedures in place to
9 address that risk. Maybe this is too detailed, too
10 technical for this discussion.

11 MS. QUISENBERRY: Well, David, instead of little
12 papers -- I hear the words little paper slips and my
13 antennae go up. I mean, you could imagine something
14 where every time someone presumably with a pad signed
15 it, it printed that or printed the signature
16 (indiscernible) signature this, or whatever. So I mean,
17 does that meet your --

18 MR. CHAIRMAN: You bet. That's very reasonable.

19 MS. QUISENBERRY: Yes. So what you're saying is
20 that you just want a hard record, but at that point
21 we're actually making requirements on Epoll books which
22 I think are out of our scope.

1 UNIDENTIFIED INDIVIDUAL: I would like to try to
2 take a stab of making a requirement on valid activation
3 and not have to make a requirement on it. And basically
4 say if there is not a procedure to support something
5 basically to enable accurate canvassing, that there be
6 some technological solution. I guess I come up with the
7 words right now, but I could look at it as a requirement
8 for valid activation and not specifically.

9 UNIDENTIFIED INDIVIDUAL: To respond briefly, the
10 one way to address the scooping might be to say that if
11 we have some ballot activation that's intended to
12 replace those human procedures, then it must provide the
13 capabilities and support alternate procedures, or
14 something like that.

15 MR. CHAIRMAN: Yes. Paul?

16 UNIDENTIFIED INDIVIDUAL: I think my point was
17 fairly simple. In terms of the networking, one of the
18 things that may not be done on the east coast as much as
19 the west coast, but we're moving on the west coast to
20 more regional type of centers and early voting where
21 anybody can go and vote at any of the centers. And
22 clearly you would have to be able to have a network

1 system that would allow you to prevent a person from
2 going to one center and voting and then going to another
3 center and then voting. That requires a network.

4 UNIDENTIFIED INDIVIDUAL: Yes.

5 UNIDENTIFIED INDIVIDUAL: Right.

6 UNIDENTIFIED INDIVIDUAL: Yes, we don't want to
7 discourage that (indiscernible).

8 UNIDENTIFIED INDIVIDUAL: Okay. So --

9 MR. CHAIRMAN: One second. Secretary Gayle?

10 MR. GAYLE: I'll see if I can ask this question in
11 s way that we can communicate on it. John Gayle,
12 Secretary of State, Nebraska. And let's say this
13 discussion of course, it's beyond my IT ability to
14 resolve, but one issue you're raising is the computer is
15 being used by the poll workers. And at the end of the
16 day those computers crash or they fail or somebody makes
17 a mistake and deletes. You then don't have a record
18 anymore of who has voted on that day at that polling
19 site. The votes got cast, and so you have a record of
20 votes cast, and you have an outcome and you have a
21 tally, but you can't reconcile that. So you're dealing
22 with one type of software requirement, and that's the

1 computers that are being used by the poll workers to
2 produce a record that can be reconciled with the vote.

3 Then it sounded like the next question is well, if
4 they're networked in some way externally, we get back to
5 this question of can someone penetrate that system so
6 that it can impact the chip or the smart card that's
7 going to be given to the voter to go vote and, and in
8 some way alter that smart card so that it's going to
9 affect the outcome of the vote differently than maybe
10 the voter intended. It's just a mysterious fog out
11 there that I struggled with when we were on that other
12 issue of radio frequency versus infrared. And that was
13 a struggle for me at the time.

14 But is this what we're concerned about, is that if
15 it's networked then irregardless of whether the
16 computers at the desk of the poll workers are
17 functioning, there's an ability, remote maybe as it
18 might be, that someone could penetrate that wireless
19 communication and impact the smart card. So if the
20 smart card, if that's what we call them, if it's
21 activated independent of that network then there's,
22 what, a software independence? Is that what we're

1 saying? Or at least there's a barrier.

2 UNIDENTIFIED INDIVIDUAL: Yes. From a security
3 perspective, thinking in terms of the threats there,
4 people love to network things together. And if you're
5 going to allow external networks, the question really
6 is, how do you know you're not externally networking up
7 to the Internet. You could. So it would be wise to
8 find out okay, what are the requirements for these
9 external networks, I'd like to have a better idea of
10 them before I'm going to allow that to happen.

11 Another way of handling it would be to say, go
12 ahead, allow it, go ahead and allow these external
13 connections and activate the ballot, but make real sure
14 that when you activate the ballot that all you can do is
15 activate the ballot. And that would probably force some
16 changes in the smart card read/writes that we do right
17 now. But it would also allow you to have externally
18 networked E-poll books activating the ballot.

19 So what I believe I have been hearing -- oh, I'm
20 sorry. You had a --

21 MR. GAYLE: Well, just in terms of the piece of
22 paper that we were talking about, that would resolve the

1 potential of computer errors by the poll workers in the
2 leading mistakenly or having the equipment crash for
3 some particular reason. Those pieces of paper would
4 solve that problem in terms of being able to reconcile
5 the number of voters versus the number of votes cast.
6 So that would be one solution to that.

7 UNIDENTIFIED INDIVIDUAL: To that solution, right.

8 MR. GAYLE: But that doesn't resolve the networking
9 issue. Either the ballot has to be activated
10 independent of the poll book that's networked, or we're
11 potentially taking a risk of ballot manipulation.

12 UNIDENTIFIED INDIVIDUAL: This is really a fine
13 distinction in some ways, but sort of addressing the
14 second bullet in a sense, we just as a committee don't
15 have time to fully research E-poll books. And it would
16 take a lot of time because it touches so many areas that
17 I don't think we can get into that. That's my opinion
18 anyway. I'll share with you my opinion.

19 So I would think if you take that off the table,
20 then your option is let's make sure that E-poll books can
21 activate the ballot and that's it. They can't do
22 anything else. They can't leak other information, they

1 can't have enough memory to contain a virus, they can't
2 put personal information on there. And that would mean
3 not using a general-purpose smart card with a lot of
4 memory. It would require using one with perhaps only
5 enough capability to write over what the ballot style
6 ought to be and so on and so forth.

7 So those are in a sense picky questions, but I
8 guess the bigger question I'm really asking you is, what
9 does the TGDC want to do? Allow externally-networked
10 poll books to activate the ballot or not?

11 MR. CHAIRMAN: Helen?

12 MS. PURCELL: Helen Purcell. John, I have a
13 question. Since I'm not familiar with Epoll books --
14 we're supposed to have a demonstration in about a month.
15 But what we're trying to do I assume is to automate a
16 process.

17 UNIDENTIFIED INDIVIDUAL: Right.

18 MS. PURCELL: If you're automating a process and
19 then you're going to add to that something, paper behind
20 that, it sounds to me like you're defeating that process
21 of trying to automate by doing that, because now you've
22 created something else. Not only have you got this

1 automation, but then you've got the poll worker doing
2 something else to create and keep a paper record of
3 something.

4 UNIDENTIFIED INDIVIDUAL: Yes.

5 MS. PURCELL: It is difficult enough to get them to
6 keep what they're supposed to now. But I also think if
7 we had something of this nature, as David mentioned we
8 would definitely have procedures in place to do that. I
9 think all of the states have certain procedures for
10 whatever method they're using. But are we talking about
11 automating a process?

12 UNIDENTIFIED INDIVIDUAL: We are definitely talking
13 about automating a process. But the issue here is that
14 when it is not automated, there are procedures in place
15 that help with the security of the overall process. And
16 those procedures are writing signatures to an Epoll
17 book. And you can read those and compare them with a
18 number of electronic records. So you have a procedure
19 there, and by automating it if you replace that
20 procedure, you've lost that aspect of the security. And
21 so you've got to make sure that your replacement still
22 affords you the same level of security you had with the

1 manual procedure. And in this case I think Whitney and
2 David were basically saying, would an approach such as
3 an Epoll book just printing out a signature or something
4 like that, would that be good enough. Because then at
5 the end of the day you'd have all these signatures that
6 would basically constitute a list of all the people who
7 showed up to vote. It seems like the problem is solved
8 by doing that.

9 MS. PURCELL: Because if you have that, you have
10 the same thing at the end of the day that you have now,
11 because you have a poll book now that's got all the
12 signatures in it.

13 UNIDENTIFIED INDIVIDUAL: Yes.

14 MS. PURCELL: If you produce something that had a
15 list of all of those people who had signed in on the
16 Epoll book, I assume you'd have the same thing you have
17 now with as much as accuracy as you have today, because
18 maybe somebody missed somebody signing in on the poll
19 book.

20 UNIDENTIFIED INDIVIDUAL: But you are then trusting
21 the software on the Epoll book to get it all right.

22 MS. PURCELL: But you are trusting the poll worker

1 to get it all right now, which doesn't always happen.

2 UNIDENTIFIED INDIVIDUAL: Well, that is true. I'm
3 a security person by nature and I prefer to trust them.

4 MR. CHAIRMAN: John, let me -- the discussion
5 initially started off and I think Ron captured it really
6 well. The issue to me doesn't seem like it's really a
7 security issue per se. The security issues that we've
8 been dancing around are ones that are handled sort of
9 independent of the TGDC. These are the procedures that
10 the state and local officials have in place to ensure
11 that the appropriate person is the person they claim
12 they are when they show up and at the right place.
13 That's all outside what I see as our (indiscernible).

14 I believe the real issue here that we need to
15 address, and I think Ron captured it really well, it's
16 really privacy, not the security issue. Privacy is if
17 you have a smart card that is physically touching the
18 machine that you're voting on to ensure that it's a one-
19 way transfer of information and not a two way. And the
20 reason why that's important for us is if we do not have
21 guidelines today that would forbid a two-way
22 communication, then there are no tests that would be run

1 to ensure conformance to that. And so we need to
2 essentially address that to ensure that it's testable
3 and that a machine will not have a two-way
4 communication. Is that a fair way --

5 UNIDENTIFIED INDIVIDUAL: Well, you're my boss.

6 (Laughter.)

7 UNIDENTIFIED INDIVIDUAL: But I do have to disagree
8 slightly. I do think option 4 is an issue but I think
9 it's a pretty simple issue and it's easily handled. So
10 I don't really think it's a major issue. You are right
11 though that primarily we are talking about a privacy
12 issue. And that's the real important thing I want the
13 TGDC to direct us on. And it really comes to this
14 question of, if we have poll books and polling sites
15 that are networked to external networks, voter
16 registration database networks, and they activate the
17 ballot, provided we incorporate privacy requirements and
18 security requirements on the smart card or whatever
19 that's used, is that okay. Is that okay, or do you want
20 us to put other restrictions on that. That's really
21 what we want to know.

22 MR. CHAIRMAN: Chairman Davidson.

1 MS. DAVIDSON: Donetta Davidson. And, John, I've
2 got a question for you. When you talk about it's only a
3 one way and not a two way -- I think about you're
4 activating the machine to allow the voter to cast a
5 ballot. Then I also think about when it comes time to
6 deal with the provisional ballots that's on there,
7 you've got to pull that ballot back out if it can't be
8 counted, if they're not qualified to vote. So does a
9 two way -- did you just cut off that capability of
10 pulling out a provisional when you talked about you
11 couldn't pull it back out, the two way?

12 UNIDENTIFIED INDIVIDUAL: No, I think -- I'm going
13 to presume that when whomever brought up two way might
14 be thinking of a situation where, let's say the voting
15 station then records on the E-poll book how the voter
16 voted -- I'm sorry, records on the smart card how the
17 voter voted. And that smart card gets pulled out and
18 then stuck back into the E-poll book to be reactivated
19 again, but something on there reads that information
20 off. You know, some sort of read back that --

21 UNIDENTIFIED INDIVIDUAL: This is actually -- I was
22 bringing up the one-way business. And this is exactly

1 the concern.

2 UNIDENTIFIED INDIVIDUAL: Handling provisional
3 votes would -- I'm not proposing anything that would
4 limit that.

5 UNIDENTIFIED INDIVIDUAL: John, I think you're to
6 the devil in the details part. I mean, I think we have
7 a pretty clear consensus that the privacy issue is very
8 important, and I think we have a clear consensus
9 (indiscernible). But if what you're looking for is
10 direction, I wonder if you have it. But in the end
11 we're going to have to see the requirements, and I think
12 how you write those requirements is going to make a big
13 difference.

14 MR. CHAIRMAN: Let me ask in terms of, to try to
15 get the general guidance. This is Bill Jeffrey. So
16 let's just walk down this -- I sense general consensus
17 that Epoll books should be allowed to activate ballots.
18 If you disagree, please -- okay. I sense general
19 consensus that there is not a huge, that people should
20 be allowed to externally network them because of the --
21 that the Epoll books should be allowed to be externally
22 networked that then activate the ballot. Okay. I sense

1 very general consensus that privacy needs to be assured.
2 And I sense that most of the people are either agnostic
3 or in favor of simultaneous paper records for
4 activation.

5 UNIDENTIFIED INDIVIDUAL: Okay. So yes, I guess my
6 question is for John. So with that summary very nicely
7 said, Dr. Jeffrey, what --

8 MR. CHAIRMAN: The boss can be right once in a
9 while.

10 UNIDENTIFIED INDIVIDUAL: So with that summary,
11 John, are you comfortable with direction or do you have
12 more specific questions you need to have answered?

13 UNIDENTIFIED INDIVIDUAL: I think so. So what I've
14 heard then is there is general agreement that, let's
15 say, option number 1 up there is what we'll do, and
16 option number 3 is what we'll do. You're agnostic on
17 number 4, and number 2 we've thrown out.

18 MR. CHAIRMAN: To clarify, on number 4 I think it
19 was agnostic or in favor. So I think there probably is
20 continued discussion that would have to occur at the
21 subcommittee level to really flush out what number 4
22 means and the benefits and disadvantages.

1 UNIDENTIFIED INDIVIDUAL: (Indiscernible.)

2 MS. QUISENBERRY: I was going to say, if you're
3 going to do any research in terms of talking to election
4 officials who are using these systems to understand what
5 they're doing, that that would be the place I would
6 focus my attention. Because my biggest sort of I-don't-
7 know-question is -- I mean, I know what election
8 procedures are in a couple of states where I've voted,
9 but I have no idea what they are generally across the 55
10 jurisdictions.

11 UNIDENTIFIED INDIVIDUAL: So if you could just
12 concentrate on, if there's anything else you need
13 guidance on, explicitly state it.

14 UNIDENTIFIED INDIVIDUAL: Okay. It sounds to me
15 like we don't really -

16 **(END OF AUDIOTAPE 6, SIDE B)**

17 * * * * *

18 **(START OF AUDIOTAPE 7, SIDE A)**

19 MR. CHAIRMAN: -- be back at 1 o'clock and for the
20 afternoon session it's to basically -- we're finished
21 with the four cross-cutting issues. And it's basically
22 additional discussion with the TGDC and any additional

1 resolutions that should be brought up. So again, please
2 be back promptly at 1 o'clock. For those who are new,
3 there's a cafeteria immediately across the hallway
4 there. So enjoy.

5 (Lunch recess.)

6 MR. CHAIRMAN: I have just one or two logistical
7 issues. At the request of Lucy Sala (phonetic
8 spelling), all TGDC members as quickly as possible when
9 you get back please send your receipts to her in the
10 envelope she provided. And particularly if you changed
11 your agenda, your travel plans, we'll need to know that
12 as well.

13 The other thing is I have gotten sheets from most
14 everybody on their availability in May, but you also can
15 e-mail them to me. But if I can get them next week that
16 would be really helpful as well. And that's all I have
17 at this point.

18 MR. CHAIRMAN: Okay. Thank you very much. I'd
19 like to welcome you all back. So let me ask the
20 parliamentarian to do roll call.

21 MS. ALLEN: Afternoon roll call. Williams?
22 Williams not responding. Berger? Berger? Berger not

1 responding. Wagner?

2 MR. WAGNER: Here.

3 MS. ALLEN: Wagner is present. Paul Miller? Paul
4 Miller? Paul Miller not responding. Gayle?

5 MR. CHAIRMAN: You might want to check Paul and
6 Gayle in just a minute.

7 MS. ALLEN: Okay. Mason? Mason? Mason is here.
8 Gannon?

9 MR. GANNON: Here.

10 MS. ALLEN: Gannon is here. Pierce?

11 MR. PIERCE: Here.

12 MS. ALLEN: Pierce is here. Alice Miller?

13 MS. MILLER: Here.

14 MS. ALLEN: Alice Miller is here. Purcell?

15 MS. PURCELL: Here.

16 MS. ALLEN: Purcell is here. Quisenberry?

17 MS. QUISENBERRY: Here.

18 MS. ALLEN: Quisenberry is here. Rivest?

19 MR. RIVEST: Here.

20 MS. ALLEN: Rivest is here. Schutzer?

21 MR. SCHUTZER: Here.

22 MS. ALLEN: Schutzer is here. Turner-Bowie?

1 Turner-Bowie? Turner-Bowie not responding. Gayle?

2 MR. GAYLE: Here.

3 MS. ALLEN: Gayle is here. Jeffrey?

4 MR. CHAIRMAN: Here.

5 MS. ALLEN: Jeffrey is here. We have 11. That is
6 enough for a quorum.

7 MR. CHAIRMAN: Thank you very much. This morning
8 we completed the cross-cutting issues, so we're actually
9 a little bit ahead of the agenda if you've got that in
10 front of you. The time now is for the introduction of
11 any additional resolutions or discussion points by the
12 TGDC. And so I will open it up to any TGDC member with
13 any resolutions or discussion points.

14 MR. GAYLE: Mr. Chairman, John Gayle, Secretary of
15 State, Nebraska. I have several resolutions that I had
16 prepared, not knowing whether I would actually introduce
17 them as resolutions or as points for discussion. I
18 think I would prefer to use them as points for
19 discussion rather than as resolutions, and I know that's
20 probably a little out of the ordinary from Robert's
21 rules of order.

22 MR. CHAIRMAN: I haven't followed them very

1 faithfully (indiscernible).

2 MR. GAYLE: Without objection to the
3 parliamentarian, it would be my preference of how to
4 proceed. However, there may be other members who do
5 have resolutions they would prefer to introduce before I
6 address my issues of concern. So I defer to any other
7 resolutions that might be ready to be presented.

8 MR. CHAIRMAN: Thank you, sir. Are there any
9 resolutions? Any TGDC member have any resolutions
10 before we go to points of discussion? Hearing none,
11 Secretary Gayle?

12 MR. GAYLE: Thank you, Mr. Chairman. As Secretary
13 of State I serve as Chief Election Officer for the state
14 of Nebraska, and have done so for seven years during the
15 entire period where we worked our way through HAVA and
16 the implementation of HAVA and the funding and training
17 issues that of course every state had to address, and
18 have served now on TGDC and on the Standards Board. And
19 there are just some broad issues of concern. I would
20 certainly appreciate anyone's thought.

21 One of them is this, the first one. Because of the
22 great disparity in America between small states and

1 large states, states with sparse population, states with
2 dense population, the urbanization creating huge urban
3 areas versus many, many small towns in America, Nebraska
4 has 500 communities of 300 people or less. Many, many
5 of those areas of America had no choice except a hand
6 count. The counties didn't have the ability to buy any
7 kind of equipment at all, and had to rely on election
8 administration to provide the security and to provide
9 the public confidence in the voting process. And to a
10 very, very large degree it was successfully done. I
11 think most of the, I guess I would call the
12 controversial issues that arose in America, arose out of
13 large urban areas with highly complex demographics.

14 So as we have worked our way through these
15 standards, and I do compliment NIST and all of their
16 staff for their hard work and obviously their competence
17 and ability and skills to bring us to this point, but in
18 many ways I think of that as setting standards for
19 fairly complex equipment. And there doesn't in my mind
20 seem to be much compartmentalization or segmenting of
21 features that allow either the Standards Board or the
22 EAC to say well, for those counties that are smaller and

1 more sparsely populated, we'll allow these segments to
2 be optional as long as they're replaced by election
3 administration best practices, or the election
4 management guidelines that EAC obviously is working on
5 and will adopt, so that there would be a digression of
6 the most complex and expensive equipment that truly does
7 address every issue in a very meaningful and scientific
8 way and is not as dependent on election administration,
9 but vendors can develop certain kinds of equipment that
10 can opt out of certain features, as long as they're
11 replaced with best practices, to bring the cost down, to
12 bring the poll worker training down, and to bring the
13 equipment down to the level of what issues are most
14 likely to be met in those more rural areas.

15 So as we move from TGDC to Standards Board, which
16 is made up of two election administrative
17 representatives from each state and area, how can they
18 interface with the standards that we've set and say,
19 this makes sense for New York City or Los Angeles, but
20 for Whahu (phonetic spelling), Nebraska we would like to
21 opt out of some of these things and use election
22 administration?

1 MR. CHAIRMAN: Whitney?

2 MS. QUISENBERRY: I don't know if this directly
3 replies to what you say, but I know that as a non-
4 election official on this committee, one of the
5 challenges for me has been learning enough about
6 election practices to be able to make good judgment.
7 And I have to thank everybody on the committee, because
8 I know on HFP it's been great, Sharon and Alice and
9 (indiscernible) in helping us understand sort of the
10 impact of what we're saying, what are the unintended
11 consequences.

12 So one of the things I might be hearing you say is
13 that when we consider a requirement we need to think not
14 just about what the requirement says, but what
15 unintended consequences of that requirement might be or
16 how it might impact election practices. And I know that
17 that's probably in their wisdom why Congress insisted
18 that this committee have representatives of many
19 different specialties. And perhaps one of the things
20 that you might be looking for is ways that we could make
21 sure that we get that input in a more effective way,
22 especially as right now we're sort of down to the wire

1 on the hardest ones. I mean, those are the ones that
2 always get left for last, and how do we make sure that
3 we're framing those questions clearly enough that we're
4 getting good input.

5 MR. GAYLE: Mr. Chairman, if I may respond, in
6 looking at the innovative class that we're talking about
7 for the next iteration, what I find interesting is that
8 in a sense it's saying in the innovative class you can
9 kind of pick and choose the standards that you're going
10 to follow with your innovative equipment, and if your
11 equipment falls into these classes of standards then you
12 have to meet them. But these other standards, if
13 they're irrelevant, they're optional and you can opt
14 out. Now, we haven't figured out I don't think who's
15 going to make that decision of what you can opt out of
16 or not, but there obviously is built into that some
17 discretion of what's relevant and what's not relevant to
18 that piece of equipment. So if that piece of equipment
19 is a simpler equipment that's designed for the less-
20 populated states, it's simpler need, it seems like
21 there's a certain parallel there of, if you're going to
22 allow an innovative class, can you also allow it in a

1 kind of a digression class.

2 UNIDENTIFIED SPEAKER: Yes, I think one thing worth
3 thinking about, more or less what you're saying, is it
4 might be possible to talk about different classes of
5 voting centers, and depending upon the class whether it
6 might have some variances in the guidelines. I mean, to
7 just talk about it in an almost an extreme sense to
8 illustrate a point, supposing you had an area which only
9 had 50 people voting. You might be able to think of
10 almost a purely administrative process with just paper
11 ballots and a box, so to speak, and dispense with a lot
12 of it. And it would make sense under that context,
13 where it wouldn't scale up at all to a much larger
14 voting district. So I'm just use that as an
15 illustration to say that it's perhaps possible for us to
16 think about some way of dealing with it that way in
17 terms of classes.

18 MR. GAYLE: And I know it's late in the day, the
19 eleventh hour to even bring this subject up with regard
20 to the next iteration, but if the innovative class is an
21 area where it can be considered -- it's just an area of
22 concern of mine in terms of the ability to really fairly

1 and equitable address the needs of all of America and
2 not just the most complex demographics of America. So
3 I'll move on unless anyone has anything --

4 MR. CHAIRMAN: Helen Purcell?

5 MS. PURCELL: Thanks. Helen Purcell. To that
6 point, Mr. Secretary, just as we have in our state law
7 the ability to handle certain sized precincts that are
8 smaller than 200, we can deal with those precincts in an
9 all-mail category rather than going to the expense of
10 setting up a polling place and poll workers and so
11 forth, when there might only be one or possibly fewer
12 people going to the polls. This would seem to me to
13 fall in that category where you handle that much
14 differently when you're talking about a smaller
15 population.

16 MR. GAYLE: And I appreciate your bringing that
17 point up, Ms. Purcell, because we do the same thing in
18 Nebraska. I have that option as Secretary of State to
19 designate certain precincts to be mail-only ballots.
20 And it saves us having to put expensive equipment into
21 those precincts and it eliminates some 88 compliance
22 issues, because sometimes a ranch garage isn't 88

1 compliant. So we can merge precincts and do mail-in
2 ballot, and it's very fair and equitable. So that's the
3 kind of flexibility I hope America will still continue
4 to have in the future, even for counties that do want to
5 have some form of technology but maybe not what the next
6 iteration is building.

7 MR. CHAIRMAN: (Indiscernible.)

8 MS. PURCELL: Helen Purcell again. I might include
9 in that in addition to a garage on a farm or something
10 like that, there's also Indian villages that don't have
11 the amenities that you normally have to have to be 88
12 compliant.

13 MR. GAYLE: Absolutely. Well, with regard to my
14 next issue, and I think it was addressed in December but
15 I'll simply reemphasize it, there's such an incredible
16 sensitivity in America today, not only sensitivity to
17 performance of government at all levels, it seems we've
18 had a systemic attack on government for so long that
19 there's virtually little public trust in public
20 officials or in the efficacy of representative
21 government. And so because of that heightened
22 sensitivity with regard to elections, that unfortunate

1 leak of information that made the news that the TGDC had
2 found that all forms of DRE equipment virtually were too
3 vulnerable, too unreliable, too undependable, too
4 subject to attack to be usable, the media and the public
5 leaped to the instant conclusion that if they were using
6 DRE equipment, therefore it was not a system that could
7 be relied upon.

8 And I'm just hoping that as this next iteration
9 goes to final press in a sense that we avoid any
10 language that so implies that any such current equipment
11 that is HAVA compliant and HAVA funded and met the 2002
12 standards is not so fundamentally flawed that the public
13 will lose confidence in it. We've just bought it, we
14 need ten years to make it cost effective, and all it's
15 going to do is, just one slight slap at that equipment
16 and we're going to be facing a whole new public
17 confidence issue. So I hope we can avoid any language,
18 that we're all sensitive to it to be sure we don't cast
19 that kind of pale over existing equipment. So that's
20 basically a statement, and as I say I think you did
21 address that in December of 2006. And I just want us
22 all to continue to be alert to that.

1 As a third point, considering at least in my own
2 mind that we're probably talking about standards that
3 we're drafting now, we're drawing thoughts and ideas and
4 scientific input on issues that arising from current
5 equipment, and we're looking at an iteration that
6 probably won't be effective until 2010. And with design
7 and development testing, we're probably not going to see
8 this generation of equipment until 2012 or so. And
9 there's going to be a lot of new ideas, new technology,
10 new science, particularly in the IT area, that may take
11 us far, far away from the standards that we're
12 developing. And I think the innovation class was a
13 genius piece. Whoever gets credit for it, we certainly
14 needed that.

15 And what I also was concerned about is whether TGDC
16 will continue to be able to approach 2012 by upgrading
17 the standards as new technologies evolve. And I guess
18 that's a question for the EAC to decide how flexible
19 those standards will be between now and then, or whether
20 the innovation class will be the only place that we can
21 address evolution as we approach 2010 or 2012. So that
22 was another one of my concerns, is how do we express a

1 broader vision, broader inclusiveness and flexibility
2 for the genius that's going to create innovations,
3 particularly in source code and some of the more
4 software-related features of this equipment. I don't
5 know the answer to that and just express that as a
6 concern as well, how EAC and TGDC will address that
7 constant evolution in the future.

8 And part of that probably is also a concern that
9 with the equipment we all now have, virtually brand new,
10 installed January 2006 for most of us, you're not going
11 to get ten years of life if you don't have upgrades,
12 updates, and firmware to address these little evolutions
13 that are going to occur. You don't want to replace the
14 whole piece of equipment, but if there's something that
15 will make it a little better and preserve that life,
16 that would be of course economical and tremendously
17 efficient without having to send that entire system back
18 through the new standards. Hard question. I don't know
19 how that again is resolved, but it's going to be a real
20 issue for election administrators all across America
21 that they have this equipment and there's a new piece of
22 firmware that will really enhance its performance, its

1 reliability, and security, and they can't add it without
2 having to send everything back through certification and
3 testing, whether it's the 2005 or the next iteration.
4 So that's another area of concern that just somehow
5 needs to be addressed as we move into this area of
6 testing and certifying.

7 I don't know if there are any comments to that or
8 not.

9 UNIDENTIFIED SPEAKER: Thank you for throwing that
10 out there.

11 MR. CHAIRMAN: Are there any comments or questions?

12 UNIDENTIFIED SPEAKER: Well, I don't know if you
13 can do something like this in the TGDC in the guidelines
14 that you're producing, but it does give one thought that
15 eventually one might want to think of some kind of an
16 architectural framework where the modular components are
17 broken out in such a way that it would make it easier to
18 phase in, phase out different aspects without disrupting
19 the whole system. And that might be something
20 worthwhile looking into now because it would lead to
21 discussion (indiscernible) where there might be some
22 clear points were there for standard messages and

1 interfaces would be called for.

2 MR. GAYLE: And Mr. Schutzer has an excellent idea.
3 I don't know if it's possible for TGDC to have much of
4 an extended life, but if upon completion of its work
5 with this iteration and submission to the EAC, if it
6 could have at least another honeymoon to address these
7 issues, it might be helpful to the EAC. It certainly
8 would be helpful to the election administrators of
9 America.

10 And the last issue, I promise to try to keep it
11 short. As a member of the Standards Board, I'm
12 concerned with the approaching submission and review by
13 the Standards Board. That is where election
14 administrators of America will have an opportunity to
15 address this. I frankly am concerned whether they're
16 ready to address it. As the Standards Board
17 representative on TGDC along with Alice Miller, and I
18 don't know if Alice would concur in this, but I think at
19 some forthcoming Standards Board meeting we need a day
20 or two of the expertise of NIST and the TGDC to please
21 come and spend time with us and walk us through the
22 final draft to enable us to discuss policy implications

1 and get this clear understanding that I've certainly
2 gotten. And I appreciate your patience with me for two
3 days. But those of us on the Standards Board immensely
4 need that help if we're going to be able to be at all
5 helpful in making recommendations to the EAC.

6 MS. MILLER: Yes. I would support that, John. I
7 would say also, the last time -- this is Alice Miller --
8 the last time before the first VVSG was submitted, we
9 did have that kind of interaction with the Standards
10 Board and members of NIST . And I felt that it was very
11 helpful. I think it was over two days and it was broken
12 down so that everyone got to go to every subcommittee
13 and get a report from each subcommittee, that is the
14 individuals on the Standards Board. And I think that is
15 an excellent suggestion that we need to do that again.

16 MR. CHAIRMAN: This is Bill Jeffrey. I'll just say
17 from the NIST perspective, I think I would have trouble
18 keeping the NIST staff away from trying to help with
19 that. Because of so much passion that they have on
20 these issues, I think that they want to see this go all
21 the way to the final goal line. So I don't feel it will
22 be any problem that I can fully support the NIST

1 participation. I'm sure most of the TGDC members would
2 also support it.

3 MS. PURCELL: Helen Purcell. I think that also
4 might apply for the Board of Advisories as well.

5 MR. GAYLE: Thank you. That's all I would have to
6 submit, Dr. Jeffrey. Thank you.

7 MR. CHAIRMAN: Thank you very much, Secretary
8 Gayle. Those are several really thoughtful pieces that
9 we have to bear in mind as we continue moving forward.

10 Are there any other comments or discussion points?
11 I'd like to ask Commissioner Davidson.

12 MS. DAVIDSON: Maybe I can just ease some minds
13 that exactly what you've suggested is the plans of the
14 EAC, too. And I'm not sure whether we'll bring the two
15 groups together. Last time you were brought together
16 for an extended period of time, and then we may have to
17 separate. We haven't made that decision yet or whether
18 to have the Advisory Board and the Standards Board at
19 the same time. But we will have definitely support from
20 NIST there, because obviously they know it much better
21 than what we do. And I know some of the TGDC members
22 went last time. It wasn't a mandatory thing, but the

1 ones that went, I know it was very much appreciated that
2 they listened and heard the comments back from the
3 election officials. So we do intend to follow the same
4 process that we did last time. I'm not sure how many
5 days it'll be. It will depend on how big this rewrite
6 is, because last time it was two days and we did not
7 have a rewrite. It only addressed a few areas. So this
8 time, once we see what we have and what we're dealing
9 with, then we'll start making plans.

10 MS. QUISENBERRY: Dr. Jeffrey, I would just add
11 that I was one of the TGDC members that went to the
12 Standards Board. We not only listened, we actually made
13 changes based on what we heard. So it wasn't just, you
14 know, we heard you, we actually heard you.

15 MR. CHAIRMAN: Any other questions? Well I'd like
16 to just put a little bit of perspective. I know Whitney
17 said that she's sort of new to some of the election
18 things and learning about that, not nearly as new as I
19 am at this, but if you take a step back and you look at
20 where we are, we're a few months away from July, which I
21 know many of the NIST staff are fully aware of. They
22 have little countdown clocks, I think. When you look at

1 what we've got, what was presented is over a 500-page
2 standards document. That's one, almost readable, which
3 is amazing in and of itself when you think about that
4 fee. It's a complete rewrite of the previous versions,
5 and it significantly enhances the usability,
6 accessibility, security, reliability, transparency in
7 the systems. So this, you know, from someone from the
8 outside on this, this is really phenomenal. And I would
9 very much like to thank each and every one of the TGDC
10 members for the incredible amount of time and effort
11 that they've already invested in this. Obviously the
12 best is yet to come over the next four months, and also
13 to thank the NIST staff for the support, and again the
14 EAC for always being there and helping to clarify and
15 work with us in making sure that we end up with a
16 product in the end that is hopefully going to have the
17 best possible results.

18 So with that, I officially declare this meeting
19 ended, and very much again appreciate all of your time
20 and effort.

21 (Applause.)

22 UNIDENTIFIED SPEAKER: For those who'd like me to

1 mail their books back to them, just put your tent card
2 on top of your books. If you don't want me to, then
3 don't put your card there.

4 (Meeting adjourned.)

5 **(END OF AUDIOTAPE 7, SIDE B)**

6 * * * * *

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22

CERTIFICATE OF AGENCY

I, Carol J. Schwartz, President of Carol J. Thomas Stenotype Reporting Services, Inc., do hereby certify we were authorized to transcribe the submitted cassette tapes, and that thereafter these proceedings were transcribed under our supervision, and I further certify that the forgoing transcription contains a full, true and correct transcription of the cassettes furnished, to the best of our ability.

CAROL J. SCHWARTZ

PRESIDENT