1   STATE OF NEW JERSEY

2

3   IN THE MATTER OF: *

4   * TRANSCRIPT

5   VOTING MACHINE HEARING   *   OF

6   X-------------------------------X PROCEEDINGS

7

8

9   NATIONAL GUARD ARMORY

10   151 EGGERTS CROSSING ROAD

11   LAWRENCEVILLE, NEW JERSEY

12   Tuesday, July 24, 2007

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1   B E F O R E:

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3   VOTING MEDIA EXAMINATION COMMITTEE

4   RICHARD WOODBRIDGE, Chairman

5   DARYL MAHONEY, Member

6   JOHN FLEMING, Member

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3   Voting Machine Hearing   4

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12   E X H I B I T S

13   NUMBER   DESCRIPTION   PAGE

14   (No exhibits were marked.)

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1   (The time is approximately 10:10

2   a.m.)

3

4   MR. ORLANDO: Thank you all for

5   coming for this hearing for the public

6   examination of the voting machines or the VVPRS

7   that is up for certification. Special thanks to

8   NJIT for doing the testing for this which is

9   unprecedented by the state.

10   Without further ado, I'd like to

11   introduce the Attorney General, Ms. Anne

12   Milgram.

13   MS. MILGRAM: Thank you very much.

14   Good morning, welcome to -- I think Jason said

15   it right, it is unprecedented for the State of

16   New Jersey. It is a pleasure to be here.

17   I want to start by thanking the

18   committee members who are giving us their entire

19   week to basically go through this very important

20   process to see and to test and basically take

21   testimony on whether or not the voter verified

22   paper attachment that has been submitted by

23   Sequoia should be certified.

24   They will make recommendations and

25   the determination will be made to certify these

1   devices.

2   I wanted to say a couple words

3   because I think if you sit here today or the

4   next three or four days, if you look around you

5   are going to see something pretty incredible and

6   something you don't often get to see which is

7   democracy in action. This is what it is about.

8   Voting is the most integral part

9   of democracy. It's one of most important things

10 that the State of New Jersey and the Attorney

11 General's office, the Division of Elections does

12 is to protect the right to vote. It is our

13 sincere and profound obligation just as people

14 of the state have a right to vote, it's our duty

15 to make sure that we protect the integrity of

16 the vote, show that every single voter that

17 walks into the machine knows that when they cast

18 a vote, that the vote that they cast is going to

19 be counted and that they have full comfort that

20 the election will be fair and the machines will

21 work and that the results as they come out at

22 the end of the day will be consistent with how

23 the people have voted. That is democracy.

24   What you are going to see in the

25 next three or four days is a very open and

1   transparent process. For the first time, the

2   State of New Jersey has issued criteria for the

3   voter verified paper attachments. This is

4   something that legislature has, which I strongly

5   agree with to basically say we need to have

6   voter verified paper attachments on our

7   electronic machines so that the public can have

8   confidence and we can have confidence that the

9   votes we cast are actually being counted the way

10   that we have cast them. So that if I am voting

11   for someone, I can look up at that piece of

12   paper and confirm that is the vote I have cast.

13   What the legislature did is they

14   required that the voter verified paper

15   attachment be in effect January 2008. So the

16   State of New Jersey and the Attorney General's

17   Office stepped back and we looked at what other

18   states were doing. We looked at what the

19   Federal Election Systems Commission was

20   recommending and the Federal Election Systems

21   Commission was recommending voluntary

22   guidelines, not mandatory, recommended

23   nationally, they are voluntary and go into

24   affect in 2008.

25   Those are the guidelines that we

1   use when we come up with our criteria. We are

2   going to follow the national standard and we not

3   only follow it, but actually go beyond it in a

4   number of areas. The State Division of

5   Elections felt we could and should do more to

6   protect the right to vote. That is where we

7   started.

8   We issued those criteria, we held

9   the criteria open for public comment and then

10 they were publicly released. That is the point

11 in which we took a second unprecedented step.

12 We went out and contracted, Attorney General

13 Rabner, contracted with the New Jersey Institute

14 of Technology for the first time in the history

15 of the State. We went out and we basically got

16 an independent group of computer experts to kick

17 the tires to basically take these machines

18 through the tests to say are they going to be

19 able to stand up to the criteria that the State

20 of New Jersey requires.

21   How are we going to find that out,

22 the answer was basically asking NJIT, the

23 computer experts in the back of the room to

24 spend weeks upon weeks testing the machines,

25 voting them to make sure the machines are safe,

1   to make sure the machines are secure, to make

2   sure that the machines work. You will actually

3   see the reports. Those reports have been issued

4   publicly. There will be testimony about the

5   process NJIT followed today.

6   You will hear from the vendors who

7   will talk a little bit about their products and

8   their machines and then I hope very much that we

9   also get to hear from all of you sitting in the

10   audience, the public, the people who actually

11   vote. We want to hear your comments.

12   Again, this is democracy in

13   action. This is a very important part of the

14   process which is finding out what voters think

15   about these machines which are here for you to

16   try out and to test today.

17   So the hearing will be conducted

18   and -- actually, let me step back and make one

19   other comment about the machines in general.

20   Because I have gotten a number of questions

21   about that. The question is can voters have

22   confidence in the electronic machines. I

23   believe the answer is yes. Without the verified

24   paper trail, the State looked at a number of

25   different machines and we come away with full

1   confidence that the DRE the State is using works

2   and are accurate and the voters can have

3   confidence.

4   What we are doing today is doing

5   belt and suspenders. The voter verified paper

6   trail is important because if there is any

7   question about whether or not your vote is being

8   counted when you cast your vote, that question

9   will be gone because you will be able to look up

10   and see who it is. You will be able to push a

11   button on the electronic machine, know who you

12   voted for, look up and then see on that paper

13   trail whether or not that is the vote that is

14   being cast and then counted in a recount. That

15   is critically important because it will let

16   voters have confidence when they cast a ballot

17   that is the actual vote that will be counted.

18   Now, that is belt and suspenders.

19   What the State would like to do and, again, it

20   is an ongoing process is belt, suspenders and

21   shoelaces which is to say we want and believe

22   that there have to be mandatory random audits in

23   addition to these two other pieces.

24   In addition to have electronic

25   machines and in addition to having the voter

1   verified paper attachments, we are going to need

2   to have an audit process that is random and

3   mandatory in a certain percentage of our

4   machines. That way, again, the voter will know

5   and it will cast the vote on the electronic

6   machine, the paper will come out, the paper will

7   be the official ballot for the recount and then

8   what the State will do is take responsibility to

9   randomly audit to make sure that the votes that

10   are being cast, the paper ballots are consistent

11   with the electronic ballots and that is a way to

12   make sure we can have absolute and complete

13   confidence in our voting machines.

14   So I believe this is an important

15   part of the process. Again, this is an

16   important step. These hearings are just on the

17   voter verified paper attachment. These are on

18   the criteria the State issued. I recognize

19   there will be people here who want to talk about

20   other things. I will tell you for the purpose

21   of this committee and the purposes of the

22   certification, the only comments that we are

23   actually going to use and incorporate and the

24   committee will take under advisement will be

25   those that relate to the voter verified paper

1   attachment because that is the subject of

2   today's hearing, but again, I want to thank you

3   for being here. It is democracy in action.

4   I am going to ask you to basically

5   honor the great traditions of democracy which is

6   to get involved publicly. Obviously, we expect

7   and know that you will be professional and

8   courteous. I want everyone here to engage and I

9   think it is a critical part of the process we

10 hold these hearings publicly and we have these

11 public conversations about one of the most

12 important things we do in the State which this

13 is.

14   So I want to thank everyone for

15 being here. I want to thank NJIT and thank the

16 committee and without further ado, I want to

17 turn it over for the important work to happen.

18 Thank you very much.

19   MR. WOODBRIDGE: Thank you, Anne,

20 and congratulations again on a perfect

21 introduction to what we do.

22   Let me start off with a few

23 preliminary things. First of all, I would like

24 to thank the Attorney General's Office who has

25 been a tremendous support and assistance to us

1 including Jason Orlando, Donna Kelly, Karen

2 Dumars, Donna Barber and Maria Koch. Without

3 their help it will be very difficult to do our

4 job. So I publicly want to thank you and I'd

5 like to thank the Attorney General and I'd like

6 to thank NJIT.

7   This is a new dimension for us and

8 we've always felt that it would be useful to

9 have some technological background and

10 assistance and we are delighted to have you all

11 with us today. Especially pleased to see a

12 significant turn out for today's hearings.

13   Just a little bit of background

14 for those of you who may not be familiar with

15 the State procedure. Item nineteen is what

16 dictates the election with the laws and our

17 election machines and have a rather unique part

18 to it that requires a three person committee,

19 namely us, to make a recommendation to, in this

20 case, the Attorney General's Office concerning

21 whether or not a machine meets the criteria that

22 the State should set forth.

23   It does have the unique and rather

24 odd characteristic of requiring that a patent

25 attorney be on that committee and that's what I

1   do. My background is computers and electronics.

2   I have been in electrical engineering for

3   Princeton University. I have been in the

4   computer business for over forty years and been

5   on this committee off and on since 1982. Not

6   always chairing it. I think the only reason I

7   chair it is because the chair gets asked to

8   write the report so that is why I am here.

9   So I'd like to start off by

10   introducing the two other members of the

11   committee. On my left is John Fleming who is in

12   charge of the management information and the

13   Department of Law and Public Safety and, John,

14   you might want to say a few comments about

15   yourself.

16   MR. FLEMING: I have been employed

17   with the State of New Jersey for nineteen years.

18   I have been in computer systems in the office

19   and I have been on this committee since about

20   2000.

21   MR. WOODBRIDGE: On my right, your

22   left, is Daryl Mahoney who is the assistant

23   director of Bergen County voting machines

24   division. If you want to say a few comments.

25   MR. MAHONEY: Yes, my name is

1 Daryl Mahoney. I have been employed with Bergen

2 County for fourteen years as a technician and

3 then I became the assistant director of voting

4 machines. I am also a member of the New Jersey

5 State Election Officials Association.

6   MR. WOODBRIDGE: Thank you, Daryl.

7   This particular hearing is really

8 quite unique to us. This is the first VVPAT,

9 the voter verified paper trail hearing we've

10 had. The criteria that we have as the Attorney

11 General explained is actually rather long. It

12 is longer and more detailed than this committee

13 has had to deal with in the past.

14   The hearings today will probably

15 go longer than we traditionally have gone

16 because we have the extra dimension of the NJIT

17 people here too. So I think we are going to

18 insist on fairly tight ground rules so that

19 everybody has an opportunity to speak and to be

20 heard. Basic procedure is we are going to start

21 off with a vendor overview of the machine

22 describing what it is, how it operates.

23   Then we are going to ask NJIT to

24 come up and present, first of all, their general

25 criteria and scope of work and ultimately some

1   of what they refer to as exceptions with regard

2   to the Sequoia Advantage machine we are looking

3   at.

4   After that the committee will walk

5   through the criteria a piece at a time. It is a

6   fairly laborious process, but the only way we

7   can guarantee, in fact, we are getting the

8   information we need. We also have a checklist

9   that we will go through after that point to make

10 sure we don't miss anything.

11   Because it is going to be a long

12 meeting and we have to go through the criteria

13 so much longer, I am going to try to keep this

14 fairly tight. Basic ground rules are that you

15 have to understand, first of all, the sole job

16 of the committee is only to make recommendations

17 to the Attorney General's Office. We do not

18 certify voting machines.

19   The object of our committee here

20 is basically to take a look at the machines and

21 paper trail devices added on to it. Basically,

22 the suspenders which go with the belt to see if,

23 in fact, it meets the criteria that we have been

24 given.

25   To keep the process moving

1   smoothly, the vendor will not be taking

2   questions. There won't be any public questions

3   until after the vendor has made the

4   presentation, after NJIT had made the

5   presentation and after this committee has had an

6   opportunity to ask its questions. After that

7   point, we will open it up to public comment.

8   We probably won't make any

9   determination today simply because I doubt there

10   is going to be enough time to do that. We

11   welcome public comment at the end. We take

12   public comment in consideration in fairness to

13   everybody and to the short attention span of

14   some of us on the committee, we would appreciate

15   it, as the Attorney General suggested, to keep

16   your comments directed towards the materials the

17   committee has to deal with, namely, does the

18   machine we take a look at meet the criteria of

19   the State statute. That is our only job up here

20   and if you keep your comments focused on that

21   aspect, you will be doing us a big favor.

22   I also should remind people that

23   if you do want to speak, please there is a

24   sign-up sheet. I'm not quite sure where it

25   is -- in the back there. So if you want to

1   speak, please sign up ahead of time.

2   Lastly, very importantly, I am

3   reminded that not only are you not supposed to

4   smoke in the building, but you are not supposed

5   to smoke in the front of the building either.

6   So if you are going to smoke, I guess there is a

7   place in the back.

8   Without further ado, I am going to

9   start off with a vendor and ask the vendor to

10   give us an overview of the machine and after

11   that I'm going to ask NJIT to make its

12   presentation.

13   Mr. Smith, are you ready to go on,

14   sir? Why don't you take the microphone. Thank

15   you for coming today.

16   MR. SMITH: Thank you for having

17   us and good morning. Once again, my name is Ed

18   Smith. I'm vice-president of compliance,

19   quality and certification of Sequoia Voting

20   Systems.

21   Mr. Chairman, members of the

22   committee, representatives from the Attorney

23   General's Office and the voters of New Jersey,

24   good morning.

25   We are pleased to be here today to

1 address any concerns and questions the committee

2 may have concerning Sequoia's addition to the

3 voter verifiable paper audit trail or VVPRS in

4 the regulations for use with the Sequoia

5 Advantage and the Sequoia Edge machines that you

6 see to my left.

7   The following representatives of

8 Sequoia are pleased to be present today. I

9 guess it is speak softly and carry a big

10 microphone. I will just start over again.

11   Once again, good morning, Mr.

12 Chairman, members of the committee,

13 representatives from the New Jersey Attorney

14 General's Office and the New Jersey voters here

15 present. At Sequoia Voting Systems we are

16 pleased to be here this morning.

17   With me to discuss and respond to

18 any questions or concerns from the committee are

19 several folks from Sequoia. Once again, my name

20 is Ed Smith and I am vice-president of

21 compliance, quality and certification. We have

22 Mr. Howard Cramer, who is our vice-president of

23 sales. Mr. David Allen, who is vice-president

24 of our E Voting Solutions development.

25 Ms. Sandy Green, who is director of

1 certification and Mr. Joseph McIntyre, who many

2 of you know is a senior project account manager

3 and Ms. Christine Valeriano, who is also with

4 sales and will provide a demonstration of the

5 equipment shortly.

6   Sequoia is an American company.

7 It was originally founded as the Automatic

8 Voting Machine Corporation in Jamestown, New

9 York in 1896. In the over one hundred ten years

10 that Sequoia has been in business its products

11 have ranged from some of the original lever

12 voting machines through paper ballots and now to

13 the DRE or direct recording electronic machines

14 that we have before us today for certification.

15   In fact, Sequoia's Advantage

16 electronic voting machine has been in use in New

17 Jersey since 1994 and has established an

18 excellent track record for reliability and

19 accuracy.

20   Throughout its history, Sequoia

21 has been a proponent of transparent and

22 verifiable voting. This commitment led Sequoia

23 to be the first manufacturer in the electronic

24 voting machine industry to come out with the

25 VVPAT. In fact, in 2004 the State of Nevada was

1 the first user and had great success with it.

2 The VVPAT began in a statewide election, in

3 fact, in both the primary and presidential

4 elections. Since then we have brought the VVPAT

5 to several of our customers in numerous

6 jurisdictions, sixteen different states

7 including the District of Columbia. That

8 included twenty-one counties in the State of

9 California, the City of Chicago and Cook County,

10 Illinois, Colorado and, of course, Nevada as I

11 mentioned earlier and the first use of the VVPAT

12 in the United States election.

13   All that being said, Sequoia

14 recognizes the heightened public concern over

15 the past decade with openness and verified

16 voting process. We commend the State of New

17 Jersey and Attorney General's Office, the New

18 Jersey Institute of Technology for the thorough

19 and rigorous review and testing conducted in

20 anticipation of the use of the Sequoia VVPAT

21 here in the State of New Jersey. Sequoia

22 embarked on the certification process with

23 confidence in the equipment and we know that

24 confidence is justified by the results of the

25 tests from NJIT.

1   One thing to keep in mind as we go

2   forward that the successful elections are a

3   result not just of accurate equipment, but

4   trained personnel and established practiced

5   procedures. Of the items discussed in the NJIT

6   report you will find only a few pertain to the

7   equipment itself and most of those are easily

8   addressed. In fact, many of the solutions are

9   already in place.

10   Any testing as thorough as NJIT

11 almost inevitably invites questions and

12 comments. We welcome those and we note that

13 those exceptions contained in the reports relate

14 primarily to the election process itself and not

15 to any impaired use of the VVPAT.

16   We appreciate and understand the

17 desire of this committee to conduct a thorough

18 review of the report and any concerns and we

19 remain at your service to respond to those

20 questions and to continue to prove our

21 leadership in the VVPAT area and anticipation of

22 using our VVPAT here in the State of New Jersey

23 to benefit the New Jersey voters and their

24 confidence in the elections.

25   Thank you.

1   MR. WOODBRIDGE: Mr. Smith, a

2   question. The issue is which machine will you

3   describe today? Which machine are we taking a

4   look at? Maybe give us a brief demonstration of

5   it.

6   MR. SMITH: The machine is a

7   Sequoia Advantage which is a full face voting

8   machine. Full face means at any time the voter

9   can see which selections they have made and what

10   selections they have yet to make and then as the

11   voter verifiable paper audit trail or VVPAT so

12   they can see it and verify their selections are

13   accurately recorded.

14   So Christine is going to give a

15   short demonstration. I will bring her the

16   microphone.

17   MS. VALERIANO: Hello, my name is

18   Christine Valeriano. I am from Sequoia Voting

19   Systems and I am going to give a demonstration

20   of our AVC Advantage voting machines voter

21   verifiable paper audit trail.

22   The poll worker activates the

23   voting machine for the voter. The voter will

24   step inside the voting machine as they currently

25   do. They would choose their selections. Once

1 they have made a final first round of selection,

2 they press the cast vote switch. When that is

3 pressed, the AVC Advantage will dispense a voter

4 verifiable paper audit trail for the voter to

5 review. The voter reviews the ballot to make

6 sure it matches their selection on the face of

7 the machine. If the voter would like to change

8 their mind if they deselect their choice, their

9 ballot is voided. They are then able to go back

10 to the Advantage, make their new selections,

11 press the cast vote switch again. The machine

12 then is going to print another voter verifiable

13 paper audit trail for the voter to review.

14   Again, I verified the ballot, make

15 sure it matches my selection on the machine. I

16 then again decide I want to change my mind. I

17 would deselect a selection. It will void my

18 ballot for a second time. I have a third

19 opportunity to cast my ballot. On this third

20 opportunity the AVC Advantage reads this is your

21 final chance to change your ballot. The voter

22 has to acknowledge that they understand this is

23 their third time and final opportunity to cast

24 their ballot. I press okay, I make my final

25 selections, press the cast vote button and it's

1   automatically going to cast my ballot.

2   On the first two ballots it will

3   show that my selections were voided and on the

4   third ballot it shows the barcode and also shows

5   the serial number of the machine. The reason

6   for the barcode is in the event of a recount, we

7   would hand count the ballot images, but you

8   could also use a third party off-the-shelf

9   barcode scanner to make sure your ballots match.

10   Just to let you know, on election

11 day you are not going to be able to have your

12 ballots. The reason I took them out is to pass

13 around for demonstration. There is a bag

14 attached to the voter verified paper audit

15 sealed on by lock and key.

16   I had one question to show how to

17 change the paper on the machine. I'm going to

18 turn it around so you can see. The printer has

19 a clear cover on it where the poll worker can

20 see when the paper is running low. It also has

21 a paper low sensor. In the event that the paper

22 needs to be changed, you would uninsert these

23 little pins in the side of the machine that

24 holds the cover on. You would then lift the

25 plastic cover up off of the machine and then

1   there is instructions that says open press down,

2   open push. So you open it, press it down. The

3   machine then will allow you to add paper. There

4   is approximately five hundred sheets to a ream

5   of paper. So if you take the paper, put it in

6   the cradle, make sure the black line is facing

7   up. You would then snap this back into place,

8   take the paper and it has an automatic feed that

9   will pull paper through. You put the cover back

10 on, put the pins back on and then you continue

11 the voting process.

12   MR. WOODBRIDGE: Thank you very

13 much.

14   Mr. Smith, do you have any other

15 comments to make at this stage?

16   MR. SMITH: No, sir, not at this

17 time.

18   MR. WOODBRIDGE: At this point I

19 am going to ask Mitch and your crew from NJIT to

20 come forward. Mitch, if you would introduce

21 yourself. Those microphones should be hot.

22 Thank you for coming here, otherwise you'd be on

23 vacation.

24   MR. DARER: Good morning. This

25 mic's working, great.

1   First of all, I'd like to thank

2   the committee, of course, for this opportunity

3   to discuss our project and report. My name is

4   Mitchell Darer, Executive Director of NJIT

5   Center for Information Technology.

6   I will provide an overview of the

7   project, of the environment and the testing

8   process. Following my statement, Professor

9   Aridaman Jain, one of the key project leaders

10 will describe the types of tests including

11 sample sizes of ballot scenarios and, finally,

12 professor Yun-Qing Shi, another key project

13 leader, will discuss the exceptions to the

14 criteria found for the Sequoia Advantage machine

15 under examination today.

16   In May 2007, the Attorney

17 General's Office issued, as discussed already,

18 the criteria for voter verified paper records

19 for the paper record for the electronic voting

20 machine. It requested NJIT to develop and

21 retest and evaluate certain machines against

22 this criteria.

23   The thirteen page criteria

24 document includes design requirements,

25 procedural and usability requirements, security

1   reliability targets each with specific

2   subelements that form the performance criteria

3   used in our test.

4   The criteria includes qualitative

5   subjective items such as allow the voter to

6   easily review his or her paper record. As well

7   as quantitative items, matters of fact to be

8   determined such as shall not externally

9   communicate with any system or machine. Each of

10   over seventy individual requirements in the

11   criteria was subjected to up to four different

12   types of tests.

13   Throughout the entire project

14   after all the testing we found that two core

15   requirements were satisfied by all machines.

16   First of all, voters were able to verify their

17   votes on the paper records and, secondly, the

18   vote tallies derived from four different

19   sources, paper records, barcodes on the paper,

20   closed poll reports and electronic records all

21   matched.

22   On the other hand, exceptions

23   defined as a situation where in testing against

24   the criteria did not completely or clearly yield

25   required or expected results were reported for

1 each machine. The project team included senior

2 faculty and staff with extensive experience in

3 information technology, cyber security and

4 statistical analysis.

5   A secure lab was established and

6 designed to perform the testing and to house all

7 vendor items. Each vendor supplied three

8 machines, for example, the Advantage of a

9 particular model as well as public and internal

10 documentation and other peripheral equipment

11 such as barcode scanners, barcode readers and

12 audio components. Vendor staff explained the

13 machine operations and answered technical

14 questions although they were not present or

15 involved in the actual testing.

16   Furthermore, the Attorney

17 General's Office did not influence or

18 participate in the testing.

19   Our team spent thousands of hours

20 over two months on this project scientifically

21 and objectively evaluating and documenting the

22 machine's performance against the criteria.

23 Four different types of test procedures were

24 designed and used to evaluate different elements

25 of the performance criteria and they were used

1   for different reasons.

2   These four tests are the single

3   test and three types of volume tests. The three

4   types of volume tests are called the twelve

5   hundred vote test, the fourteen hour test and

6   the fifty-six vote test.

7   The single test is a one time

8   examination or inspection or review of equipment

9   and in vendor documentation. The twelve hundred

10   vote test is a volume test involving mock voting

11   casting twelve hundred votes either manually or

12   through electronic programming of the machine.

13   The fourteen hour test emulates real voting

14   situation replicating a typical election day. A

15   long ballot was used completely balanced in

16   terms of the votes and included election

17   questions, write-ins, undervotes and voided

18   votes.

19   Lastly, the fifty-two vote test is

20   designed to force the paper ballot to extent for

21   multiple pages by looking at a long ballot in

22   conjunction with a large font size.

23   Furthermore, to support these volume tests,

24   sample ballot scenarios were developed. The

25   results have been tabulated and documented on

1   the reports to the Attorney General's Office.

2   Now, I would like to introduce

3   Professor Aridaman Jain who will discuss the

4   test, the sample sizes and ballot scenarios and

5   various tallies.

6   MR. JAIN: Thanks, good morning.

7   I'm Aridaman Jain, in the division of

8   mathematical sciences at NJIT and I will be

9   describing in more detail than he did the test

10   procedures. These are the procedures that the

11   Attorney General referenced in the opening

12   remarks.

13   So we had four type of tests, the

14   single test is a one time examination,

15   inspection or review of equipment operations and

16   vendor documentation. It includes a physical

17   inspection of various components of the DRE and

18   the voter verified systems as well as

19   examination and comparison of paper records with

20   other records, electronic records and scanned

21   records.

22   The basic operations and

23   configuration of the voter verified system are

24   examined by conducting a mock election by using

25   one or more voters.

1   Lastly, the vendor documentation

2   is examined to include certain items that are

3   required for how people in the polling booths

4   will be using the equipment.

5   There are three types of volume

6   tests. The fourteen hour test emulates the

7   actual physical voting situation over a fourteen

8   hour period that you would run into in a typical

9   election in real life. Mock voters are

10   recruited to cast various types of voting

11   scenarios. Each voter votes for about an hour,

12   they take a couple minutes break and then votes

13   again. So we had several mock voters go through

14   this process. This test procedure adopts -- the

15   fourteen hour test adopts the long ballot where

16   we had twelve different voting scenarios that

17   represent the different types of scenarios that

18   actual voters will run into. Each voter is

19   presented with a shuffle set of cards. We want

20   to randomize the sequence in which the different

21   types of scenarios were voting on.

22   This fourteen hour test resulted

23   in about six hundred votes being cast manually

24   by the voters. After each set of voting

25   scenarios, the mock voter was asked some

1   questions about were they able to verify their

2   choices and other questions in terms of doing

3   the voting itself to understand what a real

4   voter would experience. So that is the fourteen

5   hour test.

6   The twelve hundred vote simulated

7   test generates about twelve hundred votes

8   continuously based on a short ballot. That's

9   the ballot that was demonstrated to you a few

10   minutes ago. This is done through a script the

11   program set up electronically for two minutes

12   and manually for one type of machine. So here

13   the votes are not cast by people, but

14   electronically. The number of votes, twelve

15   hundred, was chosen to exceed the guidelines of

16   seven hundred fifty voters and also to meet

17   other statistical criteria. The way the twelve

18   hundred votes were generated electronically was

19   that we generated the long ballot which had

20   nineteen voting slots, hundred and twenty-five

21   times and the supplemental ballot, the other

22   kind of ballot, fifty times. So we had long

23   ballot and hundred twenty-five and long ballot

24   fifty times resulting in twelve hundred votes.

25   So these tests generated the paper records that

1 we saw earlier. The electronic records and the

2 barcode records, the one that are scanned with

3 the barcode and we compared all of them and the

4 same kind of thing was done for the fourteen

5 hour voting.

6   The third kind of volume test that

7 we did was fifty-two vote test. We conducted

8 fifty-two votes. The main focus was to be able

9 to test out multiple page ballot. But in

10 addition to the multiple page, we also wanted to

11 test out the capability to change votes. You

12 vote and you change your vote up to two times

13 and those machines where it is feasible, we also

14 tested the fleeing voter scenario. Somebody

15 doesn't complete the voting process and walks

16 away, what happens.

17   To support these three types of

18 testing we developed two types of ballots, the

19 short ballot that you see on these Advantage

20 machines with nine slots and then the long

21 ballots which you run in some elections with

22 nineteen items. The eight scenarios were

23 completely balanced in terms of whether you vote

24 for Republican or Democrat, whether you answer

25 yes or no to a question. In that respect they

1   were completely balanced and they were designed

2   to represent millions of possible choices that a

3   voter can have with nineteen slots.

4   Then we had four hour voting

5   scenarios which captured the write-in votes and

6   other scenarios that we used the ballots. After

7   doing all these three types of volume tests, we

8   generate four types of categories. Paper

9   records that are there, take them out, put back

10 and counting them, how many votes were cast for

11 each position. The scanned barcode paper

12 records counts of those and then the voting

13 machine itself had a tally of how many votes had

14 been cast for each position and finally the

15 electronic votes. We compared all those four

16 types of tallies for the fourteen hour test and

17 they matched perfectly hundred percent

18 agreement.

19   Now, for one of the machines there

20 was a paper jam which resulted in a loss of some

21 paper ballots. So in that case we were able to

22 compare the paper records with the scanned

23 records and they matched perfectly. We could

24 compare these to the other two which are the

25 tallying of the machine and the electronic

1 record and those two matched perfectly so we did

2 not find any errors in terms of these four types

3 of counts.

4 　　　　　　Thank you.

5 　　　　　　MR. SMITH: Thank you. I'd like

6 to introduce Professor Yun-Qing Shi who will

7 discuss the exceptions and will cycle the

8 criteria for the machine under examination for

9 the Sequoia Advantage.

10 　　　　　　MR. SHI: My name is Yun-Qing Shi.

11 Professor of electrical at NJIT. As they

12 already mentioned in general, our testing found

13 that the AVC Advantage machine complied with

14 most of the criteria mainly, basically, with

15 some problem, but basically voter can verify

16 their sheet on the paper record.

17 　　　　　　Secondly, the electronic records

18 compared with the paper records match each other

19 so after you compile it. There are twelve

20 exceptions we would like to present here. Some

21 representing some problems including some

22 additional reports.

23 　　　　　　So exception number one, one of

24 the criteria by the AG's office is the VVPRS may

25 be designed in various configurations. In all

1 configurations, prior to casting the ballot, the

2 voter shall have the ability to verify his or

3 her selections on a paper record in a private

4 and independent manner.

5   Exception number one says if an

6 observer is six feet or even closer is allowed

7 to stand directly next to the left or right side

8 of the curtain, he or she may be able to look in

9 and see the section on the voter panel. If on

10 the left side, this observer may also be able to

11 see the paper record in the display unit so

12 that's exception number one.

13   Exception number two. On one hand

14 the criteria says, the paper record shall be

15 printed and the voter shall have the opportunity

16 to verify the paper record in its totality prior

17 to the final electronic record being recorded.

18   Our finding is that the voter does

19 not have an opportunity to verify the contents

20 of the paper record corresponding to the third

21 vote which is the last vote and they deposit it

22 into the storage bag immediately after print.

23 So in general the voter will be able to verify

24 his selection, but the last one which the voter

25 does not have a chance to change anymore, but

 1 that is the last one, this one the voter cannot

 2 have enough time to view it again because that

 3 one is dropping into the bag.

 4   MR. WOODBRIDGE: Is it the voter

 5 doesn't have enough time or the voter doesn't

 6 see it at all?

 7   MR. SHI: That is because the

 8 machine is designed in such a way that is the

 9 first one you have enough time to review it,

10 second time same. The third time, that's the

11 last one, you do not have more choice and this

12 one goes quickly into the bag.

13   The third exception according to

14 the criteria is voter privacy should be

15 preserved during the process of the recording,

16 verifying and auditing ballot selections. This

17 includes a voter who uses an audio voting

18 device. Voters using an audio voting device

19 should also be able to verify votes privately

20 and independently.

21   What we found is that for audio

22 assisted voting if the paper record is printed

23 in multiple pages, otherwise there is no

24 problem, but if the paper record occupied more

25 than one page, then the voter is prompted to

1   print to the next page after the first page on

2   that screen rather than slow the audio message.

3   So this one may violate privacy of the visually

4   impaired voters by exposing the paper record to

5   the poll worker.

6   The exception number four, the

7   criteria says an electronic ballot image record

8   should have a corresponding paper record and

9   another criteria is the electronic ballot image

10   record and paper records should be linked by

11   including unique identifiers so that an

12   individual paper record can be identified with

13   its corresponding electronic record.

14   What we found is that the only

15   identifier of the paper record that can link to

16   the associated electronic ballot image is the

17   ballot index contained in the barcode that is

18   printed on the paper record. If there are one

19   or more paper records missing, then that is a

20   circumstance the electronic ballot image records

21   cannot be correctly linked with their

22   corresponding paper ballots.

23   The exception number five,

24   according to the criteria, the printer should be

25   designed to have a sufficient amount of paper,

1 ink, toner, ribbon or like supplies for use in

2 an election, taking into account an election

3 district should have at least one voting machine

4 per seven hundred fifty registered voters.

5   We found that paper replacement is

6 expected after about five hundred votes.

7   The exception number six criteria

8 is that the printer should be secured by

9 security seals or locking mechanisms to prevent

10 tampering. The printer should be accessed only

11 by those election officials authorized by the

12 county commissioner of registration.

13   What we found is that the printer

14 is not secured by any security seals or locking

15 mechanism and it may be vulnerable for

16 tampering. That's number six.

17   Number seven, the criteria asks,

18 the paper record should include identification

19 of the particular election, the election

20 district and the voting machine.

21   What we found is the particular

22 election name, namely primary election or

23 general election is not printed on the paper

24 record.

25   Exception number eight, the

 1   criteria is asking for -- says the DRE should

 2   generate and store a digital signature for each

 3   electronic record.

 4   What we found is that the DRE does

 5   not generate for each electronic record.

 6   Another criteria reads, the

 7   records should be exported with a digital

 8   signature which should be calculated on the

 9   entire set of electronic records and their

10   associated digital signatures.

11   What we found that because for

12   each individual electronic record there is no

13   signature so this second criteria does not

14   hundred percent satisfied.

15   Exception number nine, the

16   criteria reads the DRE should detect and notify

17   the election officials at the polling place of

18   any errors and malfunctions. Another criteria

19   also reads if a mechanical error or malfunction

20   occurs, such as, but not limited to, a paper jam

21   or running out of paper, the DRE and VVPRS

22   should suspend voting operations, not record

23   votes and present a clear indication of the

24   malfunction to the voter and the election

25   officials.

 1   What we found is that indication
 2   is not clear enough and the details are listed
 3   in the table as to those two paragraphs.
 4   Exception number ten, the criteria
 5   reads if the connection between the voting
 6   machine and the printer has been broken, the
 7   voting machine should detect and provide notice
 8   of this event and record it in the DRE's
 9   internal audit log.
10   What we found that the printer
11   connection/disconnection is not recorded in the
12   DRE internal audit log.
13   Exception eleven we mark it as
14   serious. It reads if the voter leaves without
15   finishing the vote, there is no audio or visual
16   signal to alert the poll worker.
17   Number twelve is another serious,
18   reads during the electronic verification vote
19   test which is the pretest mentioned by two
20   previous speakers. We found paper jam resulted
21   in fifty-six paper records not being printed.
22   So I think those are it.
23   MR. WOODBRIDGE: The last item,
24   the jam, would you explain the situation in
25   which that jam occurred versus how that differs

 1 from regular election operations?

 2   MR. SHI: Yes, this is the

 3 pretest, this is not official election and those

 4 twelve hundred votes are electronically

 5 continuously running so that would not happen in

 6 real election and we have random here. In real

 7 election this will not happen because if paper

 8 jam and the next vote or poll worker would not

 9 be a real problem, but we think that one should

10 be reported.

11   MR. MAHONEY: Was that during the

12 manual voting this occurred or was this done in

13 some other way?

14   MR. SHI: Electronic namely twelve

15 hundred voting is a program electronically

16 executed so continuously going.

17   MR. MAHONEY: That wouldn't

18 necessarily happen during regular voting?

19   MR. SHI: During regular votes

20 this will not happen because it will not

21 automatically continuously run.

22   MR. MAHONEY: Thank you.

23   MR. FLEMING: For testing down the

24 line, are you going to be able to have tests

25 directed so when there is a jam, it stops and it

1 continues on?

2 MR. DARER: I think when we set up

3 the twelve hundred vote test, we will re-examine

4 each time you do it and if appropriate we will.

5 MR. WOODBRIDGE: I have a couple

6 questions. First of all, I'd like to preface by

7 saying you have done a thorough job and

8 thousands of hours worth of work. I think New

9 Jersey is in appreciation.

10 Overall, what is your impression

11 of the machine?

12 MR. DARER: Well, as I summed up

13 in the beginning, I think there are two core

14 requirements that were met. The voter does have

15 a chance to review and verify his or her vote on

16 the paper record. And the tallies from the four

17 different sources, the paper record, the barcode

18 on the paper record, the electronic record and

19 the tallies in the closing of the poll, they all

20 match.

21 MR. WOODBRIDGE: Also had a couple

22 specific questions if I could. Maybe Dr. Shi

23 can demonstrate. I am not clear exactly with

24 regard to number one, could you show us maybe on

25 the machine with regard to the privacy question.

          1   MR. SHI: Number one, there's a

          2   curtain surrounding the machine during the

          3   election, but that curtain is not tall enough

          4   such that perhaps a poll worker if he or she is

          5   tall then he or she may be able to see the

          6   voting and that minor privacy issue.

          7   MR. WOODBRIDGE: Is that something

          8   that could be fixed?

          9   MR. SHI: All of those

         10   exceptions --

         11   MR. DARER: It's not a question

         12   for us.

         13   MR. SHI: It's not a question for

         14   us.

         15   MR. WOODBRIDGE: I am trying to

         16   get some clarification. Let me ask you one or

         17   two issues if I could.

         18   The exception number four stated

         19   that the only identifier of the paper record

         20   electronic ballot machine is the index

         21   containing the barcode except on the paper

         22   ballot if there are one or more missing paper

         23   records in the electronic ballot, the image may

         24   not be linked with the corresponding paper

         25   record. Would that be you're suggesting that

1 perhaps each of the ballots that are not cast

2 should have a barcode on it?

3   MR. SHI: Number four. On one

4 hand they have correspondence, yes, on the other

5 hand there is some potential problem. As we

6 found that if we stamp bar codes then each

7 barcode has a certain ballot index. Then you

8 list the ballot image index so all the paper

9 records can be listed. Then electronic records

10 already been there and then you can find a

11 correspondence so no problem. We listed it

12 because of the following.

13   Namely, you need to have all paper

14 ballots listed in the scanner listed in this way

15 then you can find the correspondence. So that

16 means if a human error take place during the

17 scan, then the correspondence we may possibly

18 lose one or two paper ballots. Then the

19 correspondence will be not be reliable to be

20 found.

21   MR. WOODBRIDGE: Let me ask you

22 one last question for clarification. The

23 machines have all been tested with regard to the

24 seven hundred fifty registered voters. Is seven

25 hundred fifty a realistic number?

```
 1              MR. DARER:  We got seven hundred
 2   fifty from the guideline from the State that the
 3   district is supposed to have one machine per
 4   seven hundred fifty registered voters.  Whether
 5   that is the right number, I don't know.
 6              MR. WOODBRIDGE:  Also, lastly with
 7   regard to exception eight, you talk about
 8   generating a signature for each electronic
 9   record so each electronic record that is cast or
10   not cast, is that correct, should have a unique
11   identifier to it?
12              MR. SHI:  It should, but namely
13   suggested if each paper vote were corresponded
14   with a signature with the electronic ballot,
15   that would make the thing secure because nobody
16   can change.  Then for all the ballot imaging
17   when you export the data, you generate another
18   digital signature for the whole group and is
19   also secure.  That is what this criteria.  What
20   the Advantage do, they have for each one there
21   is no digital signature, but for a group they do
22   have.
23              MR. WOODBRIDGE:  Group being
24   defined as like fifty or a hundred or group
25   being one, two or three?
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 1                    MR. SHI:  Depends on the actual
 2   situation.  If in the election there is five
 3   hundred votes or seven hundred fifty votes, then
 4   those would be it.
 5                    MR. WOODBRIDGE:  This five hundred
 6   votes might have of the same signature, is that
 7   correct?
 8                    MR. SHI:  Each has individual,
 9   then grouping five hundred have another one.  In
10   this way the transmission to export the data
11   will become very secure, very reliable because
12   anything wrong we will be able to locate.
13                    MR. WOODBRIDGE:  You are saying it
14   doesn't have that?
15                    MR. SHI:  Now, it doesn't have.
16   For group they have.
17                    MR. MAHONEY:  If you have five
18   hundred, was five hundred based on having the
19   voter having multiple chances as well as
20   multiple pages?
21                    MR. DARER:  I think as demoed the
22   ream is five hundred pages so that is five
23   hundred pages and if there were multiple page
24   votes, there might be fewer than five hundred
25   votes.
```

1   MR. WOODBRIDGE: Thanks for a

2   wonderful job.

3   MR. DARER: In addition to the

4   VVPAT, I'd like to echo what Ed Smith said

5   before the two very important components,

6   crucial components to ensure security elections

7   are trained personnel and best practices and

8   procedures regardless of what happens with the

9   machines. So we described our project and

10   procedures and our findings and hope the

11   committee finds it helpful and thank you for

12   your time.

13   MR. WOODBRIDGE: Thank you very

14   much.   `

15   These comments are available on

16   the Attorney General's election website. Also

17   available are the rebuttal comments from

18   Sequoia. So those documents are of public

19   record if anybody would care to see them.

20   Moving along at a reasonable clip

21   so far. What I think we will do is start

22   walking through the criteria with a view towards

23   maybe taking an hour break around 12:15 or

24   12:30. We will make sure you have plenty of

25   time.

```
 1                    Mr. Smith, are you ready to go

 2    through the criteria?

 3                    MR. SMITH:  Yes, sir.

 4                    MR. WOODBRIDGE:  The Attorney

 5    General's Office has put together a version of

 6    the statute which correlates to the various

 7    questions people asked and since we have now

 8    have a fully correlated version of that, what we

 9    will do is basically go through the checklist

10    rather than go through the entire criteria.  We

11    are not going to leave any substance out, but I

12    think it will be easier to follow.

13                    So I am going to start by asking

14    some of the questions.  Most of it comes out of

15    the statute.  First question is the VVPRS, does

16    it contain any -- does the VVPRS contain any

17    undisclosed hardware or software?

18                    MR. SMITH:  No, sir, it does not.

19                    MR. WOODBRIDGE:  The cryptographic

20    software in the voting system is approved by the

21    U.S. Government's Cryptographic Module

22    Validation Program, CMVP?

23                    MR. SMITH:  Yes, the SHA-256

24    algorithm is approved by the program.

25                    MR. WOODBRIDGE:  Which algorithm?
```

1   MR. SMITH: SHA-256.

2   MR. WOODBRIDGE: Can the VVPRS

3   components be integrated into the existing local

4   logic and accuracy testing requirements?

5   MR. SMITH: Yes, they do.

6   MR. WOODBRIDGE: Does the VVPRS

7   draw power from the DRE or the same electrical

8   circuit from which the DRE draws its power?

9   MR. SMITH: Yes, it does.

10   MR. WOODBRIDGE: Does the DRE

11   provide a standard, publicly documented printer

12   port or the equivalent using a standard

13   communication protocol?

14   MR. SMITH: Yes, it does.

15   MR. WOODBRIDGE: For every DRE or

16   electronic ballot image there is a corresponding

17   paper record with a unique identifier?

18   MR. SMITH: Yes, it can be.

19   MR. WOODBRIDGE: Now, that

20   question actually came up during the course of

21   our discussions and I would ask if you would

22   respond to the comment that there weren't

23   identifiers with each ballot.

24   MR. SMITH: Sir, we are not saying

25   there aren't unique identifiers. In the records

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 1   for -- the electronic record, however, if you're
 2   missing a paper record, then it becomes more
 3   difficult.
 4              I submit to you on the other hand
 5   if you're missing paper records that the process
 6   for any verification to be passed is hard to
 7   follow regardless and the correspondence of
 8   electronic records and, in fact, you'd likely
 9   fall into what is in the regulations for VVPAT
10   malfunction or other issue that would revoke the
11   procedures in that portion of the regulation.
12              MR. WOODBRIDGE:  I think the
13   question and answer is what are the reasons.  I
14   have a problem with it.  I can't get a
15   correspondence with the comments from NJIT, if
16   you don't mind I want to make sure that when we
17   cover the criteria, it is the same one that NJIT
18   responded to.  So if you don't mind, I am going
19   to switch from that approach and really just
20   walk right through the criteria itself.
21              The criteria which has been on the
22   Attorney General election website for some time
23   now starts out with a number of general
24   definitions that really don't do anything other
25   than define what you are looking at.  Then it
```

1   goes into issues of operations and that sort of

2   thing I am going to walk through some of those.

3   I am going to start with B1 on

4   page two. The VVPRS may be designed in various

5   configurations. In all configurations, prior to

6   casting the ballot, the voter shall have the

7   ability to verify his or her selections on a

8   paper record in a private and independent

9   manner.

10   I might indicate that was one of

11 the issues that was raised in the report of NJIT

12 brought up and one of the questions raised that

13 a six-foot tall individual, would you respond to

14 that?

15   MR. SMITH: Yes, Mr. Chair, I

16 would like to. NJIT performed the testing.

17 They performed it against the Advantage that you

18 see up against the wall here without curtains

19 present. You can see with the curtain that a

20 little bit. With the ones you have the curtains

21 in place as they are literally renders that

22 point somewhat moot. You would have to be well

23 over seven feet tall to look over the curtains

24 or from the left-hand side.

25   MR. WOODBRIDGE: I am going to

1   take the liberty and ask the staff here from

2   NJIT, was that similar to the way the machine

3   was complete when you saw it?

4   MR. DARER: We tested with a

5   curtain.

6   MR. WOODBRIDGE: Did you test it

7   with that kind of curtain?

8   MR. DARER: Yes.

9   MR. WOODBRIDGE: Is that the kind

10 of curtain you found a problem with the six-foot

11 tall individual?

12   Can you show us how that works?

13   MR. DARER: Yes, this is it.

14   MR. WOODBRIDGE: The point

15 basically is that there was testimony made if

16 someone was tall enough you could basically sort

17 of between that crack with the curtain and the

18 metallic side or shield and see into it. Of

19 course, that also begs whether the public would

20 do that. I'm not sure, but we'll ask this

21 question just to make sure.

22   The VVPRS shall be designed to

23 allow the voter to easily review or accept or

24 reject his or her paper record. A, the DRE

25 shall not record the electronic record until the

1 paper record has been approved by the voter.

2 I also note that this is the stuff

3 in the NJIT exceptions where they say the voter

4 does not have the opportunity to verify the

5 contents of the paper record corresponding to

6 the third vote after rejecting the first two as

7 it's deposited in the storage bin immediately

8 after printing.

9 MR. SMITH: Mr. Chair, the New

10 Jersey State law you are allowed to spoil three

11 ballots or two ballots and on the third one is

12 your final choice regardless of voting mode or

13 method with the DRE. So the machine processes

14 that. As they pointed out earlier, the machine

15 does provide a warning that this is your last

16 chance and however you vote, if you hit that

17 cast vote button it's basically going in.

18 MR. WOODBRIDGE: The issue I think

19 is that may be the case, but you don't have an

20 opportunity, long enough opportunity to take a

21 look at that third paper ballot to verify that

22 is, in fact, what you voted on. How long do you

23 get to see the third ballot that you voted on

24 paper?

25 MR. SMITH: It is very short. It

1   is only a matter of seconds.

2   MR. WOODBRIDGE: Is that something

3   that is correctable?

4   MR. SMITH: Yes, it is

5   correctable.

6   MR. WOODBRIDGE: B3, VVPRS records

7   may be printed and stored by two different

8   methods. A, cut and drop method. The voter

9   views and verifies the paper record, which the

10 VVPRS cuts and drops into a storage unit.

11   B, continuous spool method. The

12 voter views the paper record on a spool-to-spool

13 paper roll. This method shall be used in a

14 manner that fully protects the secrecy of all

15 votes cast.

16   MR. SMITH: Yes, it is.

17   MR. WOODBRIDGE: Any other

18 comments on that criteria?

19   MR. SMITH: No, sir.

20   MR. WOODBRIDGE: B4, no electronic

21 or paper record shall indicate the identity of a

22 voter or be maintained in a way that allows a

23 voter to be identified.

24   MR. SMITH: There are no

25 identifying indicators. Of course, by the time

1 the voter gets to the machine there name has

2 been script from any work flow or information

3 flow.

4   MR. WOODBRIDGE: There is nothing

5 on the ballot per say that would identify the

6 individual by name?

7   MR. SMITH: No, and by use of the

8 cut and drop the way they call it, there is no

9 opportunity for someone to determine how the

10 voter is voting.

11   MR. WOODBRIDGE: Just a question

12 about when they fall. I would assume the first

13 one falls on or near the bottom of the bag and

14 the last one falls on the top. It is not really

15 truly a random drop.

16   MR. SMITH: It is not truly

17 random, no, but it is randomized enough that if

18 someone wanted to take the effort to develop a

19 list of voters in the order they voted on a

20 particular machine that they could not reliable

21 use that to reconstruct how the individual

22 voted.

23   MR. WOODBRIDGE: B5, the

24 electronic and paper records shall be created

25 and stored in ways that preserve the privacy of

1 the record.

2   Before I go any further, are there

3 copies of the criteria here? Does the audience

4 have copies? You all have copies of the

5 criteria and it's in the back of the report.

6   I don't know if I have to read

7 every word here. This also related to one of

8 the exceptions that NJIT described as exception

9 number one, the same one we took a look at. So

10 do you have any further comments on B5?

11   MR. SMITH: No, sir, I apologize I

12 was misinformed about the curtains. Apparently

13 he did use them for the single test, but not for

14 the volume test where more members of the staff

15 participated. I will state that jurisdictional

16 tradition and current procedures call for no one

17 being able to be around the equipment or the

18 sides of the equipment and certainly behind the

19 equipment. So if you were a poll worker and you

20 saw an individual leaning over the machines when

21 someone was voting, clearly you would have legal

22 rights to have that person removed and that is

23 rights in all fifty states. No state allows

24 people to be around the equipment.

25   MR. WOODBRIDGE: B6, the VVPRS

1   components shall conform to federal and state

2   accessibility requirements. A, these

3   requirements shall include, but are not limited

4   to, an audio component that shall accurately

5   relay the information printed on the paper

6   ballot to the voter.

7   This is noted on exception number

8   three of the NJIT report which states as

9   follows. For voter system vote if a paper

10 record is printed on multiple pages, the voter

11 is required to print the next page after the

12 first page on the LCD screen rather than through

13 the message thus violating the privacy of the

14 hearing impaired voter by exposing the paper

15 record to the poll worker.

16   MR. SMITH: Yes, I would like to

17 respond to that, Mr. Chair.

18   We prepare the test ballot to NJIT

19 with the specifications and as NJIT mentioned

20 earlier today, we were not allowed for just a

21 few minutes to interact with staff. The issue

22 there centers around really a fairly piece of

23 election procedures. What we do in that case is

24 record an instruction to the blind voter as

25 jurisdictions do and based on the jurisdictional

1   practice to instruct the voter is that there are

2   multiple pages to their VVPAT ballot and they

3   need to press the enter button or whatever

4   button on the audio hand set to progress the

5   VVPAT through the pages and we will overcome

6   this.

7   As I mentioned, we were not able

8   to work with the NJIT staff. They basically

9   shooing us out of the way which is fine, but

10 unfortunately it leads to situations like this

11 jurisdictional practice for this type.

12   MR. WOODBRIDGE: So you don't

13 disagree with what they found, but you are

14 taking the position that it is fixable, is that

15 correct?

16   MR. SMITH: That is not only

17 fixable, but it is typically fixed in elections

18 where jurisdictions record audio to the blind

19 voter at the beginning of the ballot that

20 explain here's the button, here's what they do,

21 here's how you navigate, here's how you make

22 choices and when you get to your paper record

23 and the system tells you your paperwork is up

24 for review, you will have multiple pages, please

25 use button X to scroll through your record and

1   then once you go through it, it picks up and

2   says this is your last page, press button X or Y

3   to cast your vote and then finish.

4   MR. WOODBRIDGE: B7, the VVPRS

5   device shall draw its power from the DRE or the

6   same electrical circuit from which the DRE draws

7   its power.

8   I'd like to mention that was one

9   of the questions I had on the checklist. You

10 answered that.

11   MR. SMITH: Yes, sir, you can see

12 the cables coming from the back of the

13 electronics box to the VVPAT both power and data

14 are in there.

15   MR. WOODBRIDGE: The voting

16 machine shall provide a standard, publicly

17 documented printer port or the equivalent, using

18 a standard communication protocol.

19   MR. SMITH: Yes, it's using a

20 standard protocol.

21   MR. WOODBRIDGE: Nine, the VVPRS

22 shall mark the paper record precisely as

23 indicated by the voter on the DRE and produce an

24 accurate paper record and corresponding

25 electronic record of all votes cast.

 1   MR. SMITH: To that I hang my hat

 2   on the NJIT testimony. They do a four way cross

 3   check and found it to be accurate.

 4   MR. WOODBRIDGE: I think the

 5   committee will note that NJIT did make

 6   representation that the core criteria which

 7   included the cross counting of electronic

 8   records to paper.

 9   MR. SMITH: We also did testing

10   for federal qualification of the product and the

11   work that they do to also check that.

12   MR. WOODBRIDGE: B10, DRE

13   electronic ballot image records shall include

14   all votes cast by the voter including write-ins

15   and undervotes.

16   MR. SMITH: That is correct. The

17   VVPAT shows that the vote on the handset and the

18   capabilities allow for write-in candidates which

19   goes in the electronic record and on the paper

20   record and I believe NJIT tested for that.

21   MR. WOODBRIDGE: If I can ask,

22   Mitch, I don't know if you heard it, but did

23   NJIT test for undervotes, overvotes, that sort

24   of thing?

25   MR. DARER: Yes.

 1   MR. WOODBRIDGE: 10A, write-in

 2   votes are votes cast by a voter for an

 3   individual not listed on the ballot as a formal

 4   candidate.

 5   MR. SMITH: They vote through a

 6   keypad towards the bottom of unit being closest

 7   to the voter and for visually impaired unit

 8   through their audio handset.

 9   MR. FLEMING: On the printout it

10   shows it as the main one.

11   MR. SMITH: That's correct.

12   MR. WOODBRIDGE: You mentioned you

13   tested the write-in capability.

14   MR. DARER: Yes, we did.

15   MR. WOODBRIDGE: B, undervotes are

16   elective office and/or public questions on the

17   ballot for which the voter has not cast a vote.

18   You count the votes.

19   MR. SMITH: We track them, but we

20   don't count them because they are not a valid

21   vote, but you can tell how many there are. It

22   depends on your definition of count. We count

23   and track, but they are not tallied.

24   MR. FLEMING: On the printed

25   ballot paper, how does that show it?

1   MR. SMITH: No selections.

2   MR. WOODBRIDGE: B11, an

3   electronic ballot image record shall have a

4   corresponding paper record. A, the paper record

5   shall be printed and the voter shall have the

6   opportunity to verify the paper record in its

7   totality prior to the final electronic record

8   being recorded.

9   I note that was also one of the

10   exceptions that NJIT pointed out when stated the

11   only identifier on the paper record to link to

12   the associated electronic ballot image is the

13   ballot image index contained in the barcode that

14   is printed on the accepted paper ballot. If

15   there is one or more missing paper records, the

16   electronic ballot image records cannot be

17   correctly linked to the corresponding paper

18   ballots.

19   MR. SMITH: That is a true

20   statement. However, once again, as I stated

21   earlier, if you have missing paper records and

22   there are other portions of the record votes

23   because you have evidence that there is a

24   malfunction or some other issue at hand and in

25   any situation you have missing paper ballot,

1 whether it is real or otherwise, you have a much

2 more serious issue than being able to correspond

3 back and I would submit that the system that

4 can't identify the voter or anything along those

5 lines can provide correspondence of paper

6 records missing.

7   MR. WOODBRIDGE: I am a little

8 confused. There is a barcode. Maybe we can

9 show you here. These are the three -- these are

10 the first two ballots that were attempted, but

11 not cast. These were two spoiled ballots. The

12 last one that is cast you notice has a barcode

13 on the top. I guess my first question is maybe

14 it has to do with why does just the accepted

15 ballot have a barcode?

16   MR. SMITH: Because you don't want

17 an opportunity for someone accidentally read an

18 unaccepted barcode so instead of barcode being

19 void --

20   MR. WOODBRIDGE: Could you not put

21 a barcode on each of the ballot, even the voided

22 one that has it embedded the barcode that it is

23 a spoiled ballot?

24   MR. SMITH: You could, but once

25 again, you're opening yourself up to mistakes.

1   MR. WOODBRIDGE: Part of our

2 concern is that or part of my concern is that if

3 paper is going to be trumped, for lack of a

4 word, if there is a paper ballot missing, what

5 to do.

6   MR. SMITH: The regulations have

7 provided for that. We had to send in

8 documentation to the Attorney General's Office

9 what constitutes convincing evidence that there

10 was a malfunction.

11   MR. WOODBRIDGE: These two spoiled

12 paper ballots, is there an identifier in the

13 electronic machine that indicates that spoiled

14 ballots were, in fact, not voted on, but are in

15 fact, there?

16   MR. SMITH: No.

17   MR. ALLEN: I'm Dave Allen. There

18 is a State law that actually prevents us that

19 until the votes have been accepted, we can't

20 record the ballot itself. If we were to record

21 it and then void it, we would still be recording

22 that ballot so we'd actually be in violation.

23   MR. WOODBRIDGE: You are

24 suggesting these spoiled ballots don't leave an

25 electronic trail?

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 1              MR. ALLEN:  No.

 2              MR. WOODBRIDGE:  You are

 3  suggesting they are not supposed to?

 4              MR. ALLEN:  Absolutely, yes.

 5              MR. WOODBRIDGE:  Mitch, do you

 6  have any comments on that?

 7              MR. DARER:  We concur.

 8              MR. WOODBRIDGE:  When you say you

 9  concur, then in that record is it fair to say

10  that the accepted ballots, the ones with the bar

11  codes, do have unique identifiers to verify?

12              MR. DARER:  Yes.

13              MR. ALLEN:  I would like to say,

14  however, the technique for linking as such that

15  NJIT did correctly state that the way the

16  records are retrieved and the way the

17  information tabulated on the barcode, if any

18  paper records are missing, it makes it difficult

19  to cross relate.  In the conversion of the code

20  which is currently undergoing federal

21  certification that's been addressed by altering

22  the way that the electronic ballots are

23  retrieved and presented to the officer which

24  will allow them to identify when a paper ballot

25  is actually missing.
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1   MR. WOODBRIDGE: So, for example,

2   let's say that a hundred people went in and

3   voted and you only found ninety-eight of these

4   things in there, you could reconstruct the

5   missing two?

6   MR. ALLEN: You could identify the

7   electronic records that were associated with

8   those missing two, yes.

9   MR. WOODBRIDGE: In theory, if a

10   judge was so inclined he or she could count the

11   two missing ballots and add a paper version to

12   it?

13   MR. ALLEN: Yes.

14   MR. WOODBRIDGE: B, the DRE

15   electronic ballot image record shall correspond

16   to the paper record in a manner that does not

17   reveal the voter's identity.

18   I think we established that.

19   11C, the paper record shall

20   contain all voter selection information stored

21   in the electronic ballot image record.

22   MR. SMITH: Yes.

23   MR. WOODBRIDGE: In other words,

24   every vote that voter cast does have

25   corresponding record on the paper ballot, is

1 that correct?

2   MR. SMITH: That's correct.

3   MR. WOODBRIDGE: Section three,

4 design requirements for a VVPRS printer. One,

5 the printer shall be designed to have a

6 sufficient amount of paper, ink, toner, ribbon

7 or like supply for use in an election, taking

8 into account an election district should have at

9 least one voting machine per seven hundred fifty

10 registered voters.

11   Now, we do have a comment from

12 NJIT that paper replacement is required after

13 five hundred votes.

14   MR. SMITH: That is correct in

15 terms of how it is set up for the election, five

16 hundred ballots. Reams of five hundred pieces

17 of paper.

18   MR. WOODBRIDGE: Could you if you

19 wanted to do more than five hundred or is it

20 best designed for five hundred?

21   MR. SMITH: The paper is available

22 in a deck of five hundred.

23   MR. WOODBRIDGE: It comes in five

24 hundred each, is that correct?

25   MR. SMITH: Yes.

1   MR. ALLEN: Counting the supplies

2 we use in this particular printer, five hundred

3 is the largest size they do. There is no

4 physical reason why they couldn't bring packs

5 larger, but because it is most standard size if

6 someone were to purchase those, it would be a

7 special manufacturing process and cost would

8 increase considerably.

9   MR. WOODBRIDGE: Do you know of

10 any states that absolutely mandate that you

11 achieve seven hundred fifty ballots.

12   MR. SMITH: No, not that I know

13 of, sir. The number, the few numbers that I am

14 aware typically are quite low. If you look a

15 seven hundred fifty voters to represent a turn

16 out of sixty-six and two-thirds percent, five

17 hundred is relatively a low turn out.

18   MR. WOODBRIDGE: Of course the

19 flip side you don't know how that offsets.

20   MR. SMITH: One thing to bring to

21 light you saw how easy the paper was changed and

22 if the jurisdiction so chooses, rather than

23 change the full ream of paper, the unit is made

24 to be removed as a whole and simply replaced

25 with another unit.

1   MR. WOODBRIDGE: Swap out with

2   what?

3   MR. SMITH: The entire system

4   hangs on the side of the unit. You could have

5   one full of paper refill and set it back on the

6   record plug in the printer port and you are off

7   to the races again.

8   MR. WOODBRIDGE: You wouldn't

9   really have to change the paper, you change the

10 whole thing.

11   MR. SMITH: You can change the

12 entire unit. Of course, the entire time the

13 ballots are in the bag secured and very stiff

14 opening is small and you got your procedural and

15 security.

16   MR. WOODBRIDGE: I know the

17 language that appears. It says the printer

18 shall be designed to have a sufficient amount of

19 paper, taking into account the election district

20 should have at least one voting machine for

21 seven hundred fifty votes. So the sixty-four

22 thousand dollar question, does that mandate a

23 seven hundred fifty ballot cartridge.

24   MR. FLEMING: My question right

25 now is at the county level. What is your

1 requirement for the machines per number of vote,

2 seven fifty, so that is the requirement?

3 　　　　　　MR. CHAGARIS: Arthur Chagaris.

4 The regulation says there should be a machine

5 for seven fifty. The machine is capable of more

6 than seven hundred fifty so it is a matter of

7 adding the paper which is a fairly easy process.

8 I think the criteria is satisfied.

9 　　　　　　MR. WOODBRIDGE: It is not a

10 thousand percent clear whether it means you have

11 to permit seven hundred fifty ballots before you

12 have to change paper or whether just accommodate

13 seven hundred fifty.

14 　　　　　　MR. ALLEN: Section 3A1A actually

15 addresses the issue of changing the paper in the

16 printer during the day which implies that that

17 process was actually expected by the State.

18 　　　　　　I would like to point out one

19 other thing because obviously there is still a

20 concern with security. The likelihood of this

21 happening is actually very low. Five hundred

22 ballots cast with one machine every seven

23 hundred fifty voters constitutes sixty-six point

24 seven percent. I think any jurisdiction that

25 achieves almost sixty-seven percent turnout

1 would be phenomenally happy with their voter

2 turnout and something like this would be almost

3 I am sure they would be happy to supply another

4 paper.

5 　　　　　MR. WOODBRIDGE: This goes into

6 the next section which means if any additional

7 paper or other supplies required shall be done

8 with minimal disruption to voting without

9 circumvention of security features if a printer

10 storage unit which protects the cast ballots and

11 secrecy of votes.

12 　　　　　MR. CHAGARIS: The first part to

13 help interpret it is to understood there will be

14 paper change.

15 　　　　　MR. SMITH: Mr. Chairman, I'd like

16 to respond in this manner. If the board

17 believes that this is a mandated requirement

18 then we will offer the jurisdiction the one

19 thousand deck pack. We will go back to the

20 paper vendor and we will work with them to make

21 a one thousand pack. It will be a custom card

22 deck. I want to make that clear for the public

23 and for yourself, but we will offer that for

24 sale if it believes that is a requirement and

25 thus we can easily satisfy the seven hundred

1   fifty requirement.

2   MR. WOODBRIDGE: Okay, 2, the

3   VVPRS shall have a low-paper indicator that will

4   allow for the timely addition of paper so that

5   each voter can fully verify without disruption

6   all of his or her ballot selection.

7   MR. SMITH: Before the VVPRS runs

8   out of paper it will cease allowing the next

9   voter to go in.

10   MR. WOODBRIDGE: Do I understand

11 correctly if a voter goes in to cast a vote if

12 there isn't enough paper they cannot cast a

13 vote.

14   MR. SMITH: That is correct. If

15 they couldn't do the three times, then it will

16 cease.

17   MR. WOODBRIDGE: Does it give

18 warning before you get to the --

19   MR. ALLEN: In fact, the way it

20 works if there is not enough paper for them to

21 cast three ballots, it will not even allow you

22 to begin.

23   MR. WOODBRIDGE: How does it

24 detect when you are down on paper.

25   MR. ALLEN: It has a sensor which

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1    senses how much paper is actually left.
2              MR. WOODBRIDGE:  Is this an
3    optical sensor?
4              MR. ALLEN:  Yes.
5              MR. FLEMING:  Does that also
6    include a page printer.
7              MR. ALLEN:  Yes, it does, correct.
8              MR. WOODBRIDGE:  Three, the
9    printer shall be secured by security seals or
10   locking mechanisms to prevent tampering.  The
11   printer shall be accessed only by those election
12   officials authorized by the county commissioner
13   of registration.
14              This is also the subject of NJIT
15   comments which stated that printer is unsecured
16   by seals or locking mechanism and maybe
17   vulnerable to tamper.
18              MR. SMITH:  We have on the units
19   for security seals.  We are not exactly sure,
20   once again, we did not interface with NJIT.
21              MR. WOODBRIDGE:  You may want to
22   raise your voice.
23              MR. SMITH:  We don't understand,
24   we have a provision for locks and seals on the
25   equipment and as I stated earlier, we are not
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1   able to interface with NJIT so it is difficult

2   for us to respond to that other than say we have

3   provided what we believe are appropriate numbers

4   of locations for seals.

5   MR. WOODBRIDGE: I am going to ask

6   Mitch as a spokesperson here.

7   MR. DARER: Can we go up to the

8   machine.

9   (Whereupon, a short recess was

10   taken.)

11   MR. WOODBRIDGE: Let the record

12   reflect that we took a short five or ten minute

13   visit to the inspect the actual equipment to

14   take a look at the cover on the printer and

15   asked some questions with regard to security and

16   tamper evident seals and possible use thereon

17   and so let's continue back to where we were. I

18   appreciate it letting us take this digression.

19   So if I understand correctly,

20   seals can be added to the device. NJIT raised

21   the issue of whether or not the cover should be

22   locked during elections and I understand your

23   position is that is a choice of the county or

24   the election district that makes that, is that

25   correct?

1   MR. SMITH: Yes, that's correct.

2   MR. WOODBRIDGE: So if we were to

3   ask if there was a physical lock of the plastic

4   cover during an election, that is simply what?

5   MR. SMITH: Yes, we could do that.

6   MR. WOODBRIDGE: A4, the VVPRS

7   shall be capable of showing the information on

8   the paper record in a font size of at least 3.0

9   mm and should be capable of showing the

10 information in at least two font ranges, 3.0-4.0

11 mm and 6.3-9.0 mm, under the control of the

12 voter or poll worker. This criteria can be met

13 by providing a magnification device with the

14 VVPRS.   `

15   MR. SMITH: Mr. Chair, we do

16 provide for the jurisdictions each of the font

17 sizes.

18   MR. WOODBRIDGE: I know NJIT

19 probably pointed this out in the criteria. I

20 will see if we can move along and take a logical

21 break in about fifteen minutes.

22   Section 3B, paper record display

23 unit. One, the paper record shall be displayed

24 in a way that allows the voter to privately and

25 independently inspect it.

1   This has been the subject of the

2   first exception from NJIT.

3   MR. SMITH: Once again, we assert

4   that it is very difficult to view. You have to

5   walk around the side or the rear of the machine

6   which once again violates what I suspect is a

7   state law, certainly procedure.

8   MR. WOODBRIDGE: So this is

9   basically same answer to the question we had

10   about operation?

11   MR. SMITH: Yes, sir.

12   MR. WOODBRIDGE: B2, if the paper

13   record cannot be viewed entirely in the display

14   unit at one time, the voter shall have the

15   opportunity to verify the entire paper record

16   prior to the electronic or the paper ballot

17   being stored and recorded.

18   Again, this is the subject of the

19   second exception that NJIT raised just to

20   refresh everybody's recollection was that the

21   voter does not have an opportunity to verify the

22   contents of paper record corresponding to the

23   third vote. After reviewing or rejecting the

24   first two as it is impossible because it goes in

25   the storage bag after the printing. This is the

1 people not being able to actually see the paper

2 of the third paper ballot.

3   MR. SMITH: Mr. Chair, we

4 interpret this clause in the regulations a

5 little bit differently. We interpret this to

6 mean if you have a multiple page ballot that the

7 voter be allowed to review page one of two and

8 control the units that after he or she read

9 through page one or two can read page two of two

10 and then if it agrees with both pages cast the

11 ballots.

12   MR. WOODBRIDGE: So I am not sure

13 I understand how you read this. The point NJIT

14 is making you don't have enough time to really

15 review the third paper ballot before it is cast.

16 I am not sure how that relates to a ballot that

17 has multiple sheets.

18   MR. SMITH: That is a different

19 part of the regulation. The third ballot being

20 the final ballot. This is a different clause.

21 This clause being reviewed entirely in the

22 display unit meaning the window at one time.

23   MR. WOODBRIDGE: So, in other

24 words, what you are saying here this goes to a

25 different issue than if you have two sheets or

1 more you will review more than one sheet before

2 you cast the ballot.

3 MR. SMITH: You receive an

4 instruction in the display window that says

5 press enter to review the next page of the VVPAT

6 record. Then you will hit the enter button and

7 get page two of two will come out and if you

8 want read pages or see how you voter cast vote,

9 it drops into the bag. If you disagree, you can

10 go and change your vote.

11 MR. WOODBRIDGE: You can actually

12 get to the third ballot say the second one and

13 you want to see if page three of your long paper

14 ballot corresponds with your vote, you actually

15 be able to see the electronic vote and your

16 paper ballot at the same time.

17 MR. SMITH: That is correct during

18 the printing of VVPAT record, the vote that you

19 cast is still displayed on the face of the

20 current machine. You can you also at any time

21 see how you voted as you wanted to vote and then

22 you can check the records side-by-side.

23 MR. WOODBRIDGE: How do you go

24 back to the second or first page of that long

25 ballot and review the entire paper ballot is

1　that correct against the electronic?

2　　　　　MR. SMITH: No, sir, the printer

3　does not scroll backwards so you review the

4　VVPAT record one page at a time once you review

5　the first you enter and review the second and

6　third or fourth or fifth.

7　　　　　MR. WOODBRIDGE: You cannot scroll

8　back up.

9　　　　　MR. SMITH: You cannot scroll back

10　up.

11　　　　　MR. FLEMING: Going back to the

12　first one in that third time through right now

13　would have multiple pages it will spit the paper

14　virtually out of the printer. You have new code

15　working on that so right now it will have

16　multiple pages on the third try and the new code

17　will supply the first page and second page so

18　they can verify what they are actually doing.

19　　　　　MR. SMITH: That is correct.

20　　　　　MR. ALLEN: Mr. Chairman, one

21　thing I think we are going to have to get some

22　sort of recommendation concerning how the

23　regulations in State law. New Jersey State law

24　says it third ballot will be cast. Now if we

25　need to we could slow it down to allow people to

1   view it, yes, but then what is the point of that

2   if you then have to cast it. If they have to

3   cast that ballot. If they are going to void it

4   then a third time then we would need to confirm

5   that is allowable in the State law. Because of

6   the anonymity, there is no way to if they voter

7   said I still believe there was wrong, I made a

8   mistake the third time there is no way to

9   isolate that vote.

10   MR. FLEMING: I think it's the

11 voter verifiable. The voter wants to know that

12 last one was actually they want to be able to

13 see that is my interpretation. It is not that

14 they can change it again. It is just that they

15 can see what really this whole printer not

16 really have paper ballot to be able to count it

17 is really so the voter is getting confidence in

18 saying what I'm seeing is what is actually put

19 in.

20   MR. ALLEN: You are suggesting

21 they should be able to void it a third time?

22   MR. FLEMING: No, that is their

23 vote, but at least they can see what they voted

24 for and if they made a mistake then that is

25 another issue, but they made the mistake on that

1 third try at least they know they made a

2 mistake.

3   MR. SMITH: As I mentioned there

4 is code currently.

5   MR. WOODBRIDGE: Just for

6 clarification, do I understand that if you get

7 to your third ballot that is automatically cast,

8 is that correct.

9   MR. SMITH: It is not

10 automatically cast, but once you have cast it

11 the paper record is not available for you to

12 make changes to. And I think the point of

13 contention here is that it goes by fairly

14 quickly such that you can't take a full reading

15 of it and walk away comfortable that the record

16 is really what you did that third time around.

17   MR. WOODBRIDGE: The display unit

18 shall have a protective covering which shall be

19 transparent and shall not obscure the voters

20 view of the paper record. The this covering

21 shall be in such condition that it can be made

22 transparent by ordinary cleaning of its exposed

23 surface.

24   MR. SMITH: Yes, sir, we provide a

25 plexiglass cover over the paper record and you

1   can clean it.

2   MR. WOODBRIDGE: The record should

3   probably reflect too the members of the

4   committee took a look at the machine and the

5   cover over the paper vote.

6   C, paper. Any paper record

7   produced by a VVPRS shall be readable by voters

8   and election officials.

9   MR. SMITH: Yes, sir.

10   MR. WOODBRIDGE: What we have up

11 here perhaps the public would want to take a

12 look during the break is the samples of the

13 ballots that were printed out to spoiled ones

14 and one final one and they are readable.

15   C2, all paper records shall be

16 stored in accordance with vendor specifications.

17 I guess that begs a question what are vendor

18 specifications for storage.

19   MR. SMITH: In short they

20 essentially are temperature and humidity that we

21 find in this room and you can save some

22 variation around that considering voting

23 machines are stored in a warehouse environment

24 which may not have perfect air conditions like

25 at your house or in a business office.

```
 1                   MR. WOODBRIDGE:  How do you secure
 2    the bags when the vote is finished?
 3                   MR. SMITH:  I'm not sure.
 4                   MR. WOODBRIDGE:  You finished
 5    voting at the end of the day and the people have
 6    dropped the ballots in bags how do you keep
 7    people from reaching in the bag and.
 8                   MR. SMITH:  That is really more of
 9    a jurisdictional issue.  We provided some
10    physical security and place additional seals and
11    locks with the bag.  We put a cover over it when
12    you move the back from the printer unit or you
13    can transport it as a whole.
14                   MR. WOODBRIDGE:  Do people
15    typically seal the bags when they are finished
16    so it can't be broken without some sort of
17    evidence.
18                   MR. SMITH:  Yes, it is typical
19    that jurisdiction require that the seals remain
20    intact and leave the machine as it is take it
21    down, but leave the printer and the bag
22    basically as they are in a sealed or locked
23    condition or if you do open the bag that you put
24    tamper evident tape or something over the
25    opening so that if it is tampered with
```

1　attempting to fish ballots out of bag or insert

2　ballots in the back it would be easily

3　detectable.

4　　　　　　　MR. WOODBRIDGE:　C3, if stored in

5　accordance with vendor specifications, the paper

6　used to produce a paper record shall be readable

7　for a period of at least two years after the

8　election in which it is used.

9　　　　　　　MR. SMITH:　Yes, we assert that

10　is.

11　　　　　　　MR. WOODBRIDGE:　Do you have any

12　idea what the life of the paper ballot is?

13　　　　　　　MR. ALLEN:　The specifications

14　from the paper manufacturers assert the ink

15　should be good for up to seven years if it is

16　kept within the environment which is specified.

17　　　　　　　MR. WOODBRIDGE:　Are these what

18　kind of print is this we print on anything other

19　than paper?

20　　　　　　　MR. SMITH:　No, sir.

21　　　　　　　MR. WOODBRIDGE:　What is the

22　susceptibility with regard to light?　I know

23　light tends to mess things up.

24　　　　　　　MR. SMITH:　Part of storage is

25　that they are kept in the dark which normally

```
1   that is not as much after been issue because

2   they are typically boxed and secured.

3              MR. MAHONEY:  What about excessive

4   heat?

5              MR. SMITH:  Heat will get them

6   too, but it has to be pretty excessive.

7              MR. MAHONEY:  What do you consider

8   excessive?

9              MR. SMITH:  Leaving it on the

10  dashboard of your card for extensive period of

11  time.

12             MR. MAHONEY:  Is that eighty-five

13  or ninety degrees?

14             MR. SMITH:  That will reduce the

15  readable life the paper, but not -- the paper

16  does take into account the warehouse.

17             MR. WOODBRIDGE:  I think we are

18  going to do one more section here and then take

19  a break just for the record we appear to be

20  probably a little bit less than halfway through

21  the specifications.

22             D, paper record storage unit.

23  One, Security protection including, but not

24  limited to, security seals or locking mechanisms

25  shall be built into the storage unit to prevent
```

1   tampering at all times, including pre-election,

2   election day and post-election. The Attorney

3   General, through the Department of Law and

4   Public Safety, will issue chain of custody

5   guidelines regarding the storage unit.

6   I don't think we have to deal with

7   the last sentence obviously but for the record

8   you might want to review for the committee again

9   the security seals and locking mechanisms for

10 the paper records storage unit.

11   MR. SMITH: Yes, we have provision

12 for loops to provide locks or seals went the

13 ballot bag and the printer unit of the system

14 and as Mr. Allen pointed out earlier the

15 equipment tamper efforts that adhesive seals are

16 easily placed between the cover and chassis an

17 the chassis and the unit so that pre-election is

18 complete and the machines is ready to go at that

19 time jurisdiction typically apply those locks

20 and seals and tape and they will remain there

21 until the jurisdiction procedure. The paper or

22 whole printer change outs and certainly election

23 activities.

24   MR. WOODBRIDGE: This was one of

25 the exceptions that NJIT pointed out that says

1   it is not security by seals or locking

2   mechanisms maybe vulnerable to tamper this was

3   an issue obviously discussed a few minutes ago

4   during our voyage over to the Sequoia vending

5   machines.

6   It is almost 12:30. I think it we

7   made decent progress. Why don't we take a one

8   hour break and reconvene here at 1:30. See if

9   we can wrap up the criteria and then give the

10 public an opportunity.

11   Out of curiosity how many people

12 to we have signed up to speak. I see a show of

13 hands. Okay, thanks, we will see you back here

14 at 1:30 and ready to go.

15   (Whereupon, a short recess was

16   taken.)

17   MR. WOODBRIDGE: Ladies and

18 gentlemen, if we could resume with the hearing.

19   Mr. Smith, you were here two

20 seconds ago, oh. We hope we have been able to

21 make some improvement with the audio equipment.

22 I apologize if it is been hard for us to be

23 understood out there. I know the court

24 reporter, Tony, has been suffering through

25 difficulties and hope this goes a little bit

1 better.

2 You may recall we were walking

3 through the criteria and by stopped right before

4 section four which is the procedural and use

5 built requirements and so I'm going to pick up

6 from that part of the page five with the paper

7 records.

8 Part of the criteria that says

9 paper records shall include identification of

10 the particular election, the election district

11 and the voting machine. And I'll also note NJIT

12 had provided a comment with regard to that

13 particular section in which they stated that the

14 name primary election and general election was

15 not printed on the record.

16 Do you want to comment on that?

17 MR. SMITH: That's fixed in the

18 version that is currently being tested.

19 MR. WOODBRIDGE: So the version

20 they saw did not include a description of

21 whether it is a prime election, but you are

22 saying that has been fixed?

23 MR. SMITH: Yes, sir.

24 MR. FLEMING: When you did that

25 version will be out?

1   MR. SMITH: September or October.

2 It will be a firm upgrade. It is not a hardware

3 change.

4   The question was the nature of the

5 correction to print all of the information that

6 is listed in the regulation and that is firmware

7 is in verification and due out in two or three

8 months and we will get them upgraded.

9   MR. WOODBRIDGE: So I understand

10 that software will be available if you choose to

11 use it?

12   MR. SMITH: Yes.

13   MR. WOODBRIDGE: And it will State

14 primary election?   `

15   MR. SMITH: Yes, all the

16 information that appears will be included.

17   MR. WOODBRIDGE: Section 4A2, the

18 paper record shall include a barcode that

19 contains the human-readable contents, shorthand

20 is acceptable, of the paper record.

21   We did see, of course, there was a

22 barcode on the cast ballot. I'm not quite sure

23 what you mean by shorthand.

24   MR. SMITH: I am not sure either,

25 sir, but that is not applicable we simply

1 | printout a readable record of the voters intent.
2 | MR. WOODBRIDGE: I'm sorry, I
3 | didn't understand that.
4 | MR. SMITH: The barcode provides a
5 | full record of the voters choice.
6 | MR. WOODBRIDGE: The barcode you
7 | have all the information how the voter voted, is
8 | that correct. You can get the entire vote from
9 | the barcode.
10 | MR. SMITH: That is correct.
11 | MR. WOODBRIDGE: 2A, the barcode
12 | shall use an industry standard format and shall
13 | be able to read using readily available
14 | commercial technology.
15 | MR. SMITH: Yes, the 417 barcode
16 | and it is readable.
17 | MR. WOODBRIDGE: Readily available
18 | commercial technology?
19 | MR. SMITH: Yes.
20 | MR. WOODBRIDGE: B, if the
21 | corresponding electronic record contains a
22 | digital signature, the digital signature shall
23 | be included in the barcode on the paper record.
24 | MR. SMITH: As I said by NJIT we
25 | take an electronic signature of the entire cast

1   record votes when the poles are closed not of

2   each individual voter so this is not applicable.

3   MR. WOODBRIDGE: I guess I am

4   still a little bit confused about that concept a

5   digital signature for a batch of votes that

6   correct.

7   MR. SMITH: Yes, an individual

8   signature taken when the poles are closed so at

9   the end of the day when the tabulations are made

10 by the poll worker the tabulations stored on the

11 machine has a digital signature taken of that

12 entire set of cast ballots and that digital

13 signature is recorded and you can utilize that

14 to ensure or check on the tampering.

15   MR. WOODBRIDGE: I am really

16 confused about what a digital signature is. Is

17 a digital signature something that is printed on

18 the record or is it something that is stored in

19 the machine and what is the digital signature.

20   MR. SMITH: The record of the

21 digital signature.

22   MR. WOODBRIDGE: What is it? What

23 is this digital signature we are talking about.

24   MR. ALLEN: A digital signature is

25 a value which is calculated on data which is

1   unique to that and it uses a key which means if

2   you change it you will not be able to read

3   calculate.

4   MR. WOODBRIDGE: It is a private

5   key encryption.

6   MR. ALLEN: That is actually hash

7   value which is used in the digital signature.

8   It encrypted it is and then verified by any --

9   MR. WOODBRIDGE: Where is the

10   signature stored?

11   MR. ALLEN: The signature in this

12   case the signature is actually each bar does

13   have a digital signature associated with it.

14   MR. WOODBRIDGE: So each barcode

15   would have a signature for the batch.

16   MR. ALLEN: It protects the data.

17   It allows you to compare the data to show that

18   the data contained in the barcode in this case

19   is the same as what the signature was calculated

20   upon.

21   MR. WOODBRIDGE: B1, a digital

22   signature is extra data appended to an

23   electronic document which identifies and

24   authenticates the sender and message data using

25   public key encryption or other means approved by

1 LPS.

2   Is that the hash code arrangement?

3   MR. SMITH: That is correct. We

4 use a hash code to show what is assigned the

5 data set which you can use to later show it has

6 not been tampered with.

7   MR. FLEMING: I need to step back

8 with the digital signature. Basically NJIT

9 found did not see that there was a digital

10 signature for each record.

11   MR. ALLEN: For each electronic

12 ballot.

13   MR. FLEMING: But you had just

14 stated each barcode --

15   MR. ALLEN: Each barcode.

16   MR. FLEMING: There is a digital

17 signature of the barcode matched to the record,

18 but not for the individual record itself?

19   MR. ALLEN: Correct, however, I

20 would like to say that the it actually does

21 create a digital signature with each ballot.

22   MR. WOODBRIDGE: Same section the

23 barcode shall not have -- the barcode shall not

24 contain any information other than an accurate

25 reflection of the paper records human readable

1   content error correcting codes and digital

2   signature information.

3   MR. ALLEN: There are correction

4   code that is part of the pdf format that is used

5   in the barcode.

6   MR. WOODBRIDGE: Those are

7   reflected in the barcode itself.

8   MR. ALLEN: It is part of the

9   same. Part of that is the correction

10   information in there.

11   MR. WOODBRIDGE: 3, for the cut

12   and drop method, if the paper record cannot be

13   displayed in its entirety on a single page, each

14   page of the record shall be numbered and shall

15   include the total count of pages for that

16   ballot.

17   MR. SMITH: Yes, as mentioned

18   earlier we are put a two of two or one of three,

19   two of three on each page.

20   MR. WOODBRIDGE: Four, the image

21   created on a paper record shall include every

22   contest that is displayed to the voter on the

23   DRE including write-ins and undervotes.

24   MR. SMITH: Yes, that is an area

25   we will do.

1   MR. WOODBRIDGE: Also assuming the

2   audience benefit that if it did not meet this

3   criteria, NJIT would have probably brought it to

4   our attention. I am assuming that if the

5   machine didn't meet some of that criteria, NJIT

6   would have brought it to our attention is that

7   correct. Looks like a yes nodded.

8   MS. VENETIS: This was not tested

9   by NJIT there was no specification.

10   MR. WOODBRIDGE: Let's deal with

11   the public later if that is okay.

12   Five, the paper record shall be

13   created such that its contents are machine

14   readable.

15   MR. SMITH: Yes.

16   MR. WOODBRIDGE: You said the

17   barcode includes all the information.

18   MR. SMITH: Correct.

19   MR. WOODBRIDGE: Six, the paper

20   record shall contain error correcting codes for

21   the purpose of detecting read errors and for

22   preventing other markings on the paper record

23   from being misinterpreted when the paper record

24   is machine read.

25   MR. SMITH: Yes, it is per the

1   barcode standard.

2   MR. WOODBRIDGE: Section B, DRE

3   electronic records. The electronic ballot image

4   record and paper records shall be linked by

5   including unique identifiers so that an

6   individual paper record can be identified with

7   its corresponding electronic record. Unique

8   identifiers are tools that will allow LPS to

9   measure the reliability and accuracy of the

10 voting system as necessary. The electronic

11 ballot image and the paper record shall not

12 reveal the identity of the voter.

13   A, unique identifiers shall not be

14 displayed in a way that can be easily memorized.

15   As mentioned previously, there

16 this was also pointed out in one of the comments

17 from NJIT which said the only identifier on the

18 ballot linked to the associated image is through

19 a valid index in the barcode and printed on the

20 paper record. If there are one or more missing

21 paper records the electronic ballot image

22 records cannot correctly linked to the

23 corresponding paper record.

24   MR. SMITH: We stand by what we

25 said earlier to that with a missing paper record

1   you have clearly other issues, but considering

2   the process to proceed normally and you can

3   cross tie the papers to electronic records.

4   MR. WOODBRIDGE: I think that if

5   you missing some paper records that aren't

6   uniquely identified you will be able to.

7   MR. SMITH: What I am saying if

8   you're missing paper records with current

9   electronic and paper records it remember very

10 difficult and if you're missing a significant

11 number of paper records it would be near

12 impossible to tie them together.

13   MR. ALLEN: I would like to add to

14 that statement. As I stated earlier the method

15 or of retrieving the electronic information has

16 been approved in the versions and now allows you

17 could compensate for that.

18   MR. WOODBRIDGE: 2, the DRE shall

19 generate and store a digital signature for each

20 electronic record.

21   There is also a comment from NJIT

22 on that which says the DRE does not indication a

23 signature for each record, but only of a batch

24 of records will be accepted paper record an

25 additional -- the DRE does not generate

1   additional signature for each electronic record

2   pertaining to ballot image record of accepted

3   paper record and does generate additional

4   signature for each set of electronic records

5   printed on electronic ballot image. This is

6   calculated on the entire set of electronic

7   records within the associated digital

8   signatures.

9   MR. SMITH: We agree with that as

10 stated and we will generate for each and every

11 cast vote record.

12   MR. WOODBRIDGE: Just so there is

13 no confusion. Is this the same software that

14 you are talking about being available in two or

15 three months?

16   MR. SMITH: Yes, sir, it is.

17   MR. WOODBRIDGE: B3, the

18 electronic ballot image records shall be able to

19 be exported for auditing or analysis on

20 standards-based and/or COTS, commercial

21 off-the-shell information technology computing.

22   A, the exported electronic ballot

23 image records shall be publicly available,

24 nonproprietary format.

25   MR. SMITH: Mr. Chair, if I may go

1   back to earlier. The DRE should generate an

2   electronic record it is not a mandatory

3   requirement in the regulations. I'd just like

4   to point that out for the record.

5   MR. WOODBRIDGE: But nevertheless

6   you will.

7   MR. SMITH: We are computing our

8   system to comply, but it is not a mandate.

9   MR. WOODBRIDGE: Going back to

10 section three with regard to exporting for

11 auditing analysis on standards-based or COTS,

12 what is your exporting mean.

13   MR. SMITH: 3A would be we

14 provided to NJIT and the units generate images

15 through the small printer in the back. You can

16 also get them out of text file Microsoft export

17 from the machine electronically.

18   MR. WOODBRIDGE: So a text file or

19 pdf.

20   MR. SMITH: A TAC.

21   MR. WOODBRIDGE: B, the records

22 shall be exported with a digital signature which

23 shall be calculated on the entire set of

24 electronic records and their associated digital

25 signatures.

1   This also was NJIT had a comment

2   on this which was similar to what we just talked

3   about?

4   MR. SMITH: Yes.

5   MR. WOODBRIDGE: So if you have a

6   text file or as a graphic file there is a

7   digital signature?

8   MR. SMITH: It is reading across.

9   It took me a second, but there is a long string

10   of the letters and numbers at the bottom.

11   MR. WOODBRIDGE: You support for

12   someplace for tabulation or what have you.

13   MR. ALLEN: Mr. Chairman, it is

14   included in the text when you export the

15   information, you export it in two forms. It can

16   be printed by the machine or it can be a text

17   file. In either case the bottom of the record

18   the entire record there is a string which is the

19   hexadecimal representation of the digital

20   signature which can be verified.

21   MR. WOODBRIDGE: C, the voting

22   system vendor shall provide documentation about

23   the structure of the exported ballot image

24   records and how they shall be read and processed

25   by software.

1   MR. SMITH: We are providing that

2   documentation.

3   MR. WOODBRIDGE: I might point out

4   for the record that we have received a

5   significant amount of documentation on all

6   aspects of the machine.

7   D, the voting system vendor shall

8   provide a software program that will display the

9   exported ballot image records and that may

10   include other capabilities such as providing

11   vote tallies and indications of undervotes.

12   MR. SMITH: Yes, our selection

13   management system allows for that.

14   MR. WOODBRIDGE: The voting system

15   vendor shall provide full documentation of

16   procedures for sporting electronic ballot image

17   records and reconciling those records within the

18   paper records.

19   MR. SMITH: Yes, we have provided

20   that documentation.

21   MR. WOODBRIDGE: Next Section, C,

22   voting with a VVPRS. One, LPS shall promulgate

23   for voters instructions on how to use the VVPRS.

24   A, the VVPRS vendor shall provide in plain

25   language any reference material requested by LPS

1   to aid in the preparation of VVPRS instructions.

2   These instructions shall be issued to each

3   county board of election for board worker

4   training.

5   I believe that method will be

6   provided to us.

7   MR. SMITH: Yes, we have provided

8   operational manuals for the Advantage with

9   VVPRS.

10   MR. WOODBRIDGE: Instructions for

11   use of a VVPRS shall be made available prior to

12   an election on the Division of Election's

13   website and shall be available to the voter at

14   the polling place of an election. `

15   C, prior to an election, the

16   county commissioner of registration will provide

17   demonstration machines at convenient locations

18   throughout the county for voter education

19   purposes.

20   With regard to that issue what do

21   you provide to each voters on how to use the

22   machine?

23   MR. SMITH: We provide operator

24   and maintenance manuals. The county takes those

25   and write it down in language that is suitable

1   for the jurisdiction. They have graphics people

2   and reformat accordingly, but we provide the

3   base verbiage for them to draw from. We also

4   provide personal and technical support so the

5   jurisdictions are putting together training and

6   voter education materials.

7   MR. WOODBRIDGE: I believe as a

8   footnote in our town about two or three years

9   ago they actually had one of those happen to the

10 machines. So you can see it.

11   D, the instructions for performing

12 the verification process shall be made available

13 to the voter on a location inside the voting

14 machine. Where feasible, the instructions shall

15 also be on the machine ballot face.

16   MR. SMITH: That's fine with us.

17 We take that as best we can. You can certainly

18 see the ballot and the instructions.

19   MR. WOODBRIDGE: Is it fair to say

20 you vote on the DRE, you don't have to do

21 anything special just press a button to vote?

22   MR. SMITH: It is a work flow to

23 the vote to do so, but if they follow the

24 prompts, it will carry them through the process.

25   MR. WOODBRIDGE: They

1   automatically get a paper ballot.

2   MR. SMITH: They can't say no to

3   it.

4   MR. WOODBRIDGE: They can confirm

5   if it asks to have a paper trail come out.

6   MR. SMITH: The machine will

7   automatically carry them to a paper trail.

8   MR. WOODBRIDGE: Two voter privacy

9   shall be preserved during the process of

10   recording, verifying, and automatic continuing

11   ballot sections. This includes a voter who uses

12   an audio voting device. Voters using an audio

13   voting device shall also be able to verify votes

14   privately and independently.

15   You did have a couple of comments

16   from NJIT in that regard one said the voting if

17   a paper record is printing the voter is prompted

18   to print the next page after the first page and

19   were in LCD screen rather than audio message for

20   the privacy by exposing the paper to the poll

21   worker.

22   MR. SMITH: The jurisdiction can

23   record and provide to the audio or instructions

24   that states how to interact with the machine.

25   So they would say once you have heard or

1 otherwise the first page is printed press this

2 bottom and get the second page and it will tell

3 them next and when you see your two pages you

4 can press this button to cast your vote and be

5 done. So they can provide instruction for you

6 had audio.

7   Like I said, we were not able to

8 interact with NJIT except for a couple minutes,

9 otherwise we can demonstrated it. The

10 jurisdiction like many things on our machine

11 record audio instructions and local tradition is

12 local needs and this being one of them they can

13 do that.

14   Once again, also the NJIT report

15 the next version of firmware will have an extra

16 slot for lack of a better word for audio

17 inserted so that in the script and flow for

18 impaired voter it will come up with another

19 audio queue so they can hear it from the

20 beginning. They will get another audio queue

21 that says you must do this to get from point A

22 to point B.

23   MR. WOODBRIDGE: Three, in any

24 election where the ballot contains a language in

25 addition to English, the paper record shall be

1 produced in all such languages.

2   MR. SMITH: We have that

3 capability and I believe two of the units are

4 programmed to do that for Spanish.

5   MR. WOODBRIDGE: To assist with

6 manual auditing, candidate names on the paper

7 record shall be presented in the same language

8 as used in the DRE summary screen.

9   MR. SMITH: Whatever language the

10 voter has chosen and thus the screen it is

11 presented in will be there. Of course, with the

12 Advantage the voter selection are shown

13 constantly so there is no need for separate

14 electronic screen so as the VVPAT is moving the

15 voter can look at the full phase of the ballot

16 and see it.

17   MR. WOODBRIDGE: B, information on

18 the paper record not needed by the voter to

19 perform verification shall be in English.

20   MR. SMITH: That is really the

21 information on the VVPAT that the voter sees.

22 Of course there is a barcode as such.

23   MR. WOODBRIDGE: Four, the privacy

24 of voters whose paper records contain an

25 alternative language shall be maintained.

1   MR. SMITH: Yes, sir, it is.

2   There is nothing out of the ordinary for an

3   alternative language.

4   MR. WOODBRIDGE: There is nothing

5   that would identify a voter?

6   MR. SMITH: No, sir.

7   MR. WOODBRIDGE: The paper records

8   shall distinguish between accepted and

9   nonaccepted ballots.

10   MR. SMITH: The print on it if

11 it's voided and the presence of the barcode the

12 printed the word void.

13   MR. WOODBRIDGE: Just for the

14 record, the two spoiled ballots appeared to have

15 the word void written at the top of them and the

16 third ballot with the barcode which is the one

17 that the voter accepted actually has the word

18 accepted in black on the left-hand side.

19   A, the voter shall have the

20 opportunity to accept or reject the contents of

21 his or her paper record.

22   Again, this goes back to the

23 comment made about NJIT number two. It said the

24 voter can have the opportunity to identify the

25 contents of the record corresponding to the vote

1   as it is. We have discussed this issue. Would

2   you explain for the record the response to that.

3   MR. SMITH: To the number of times

4   it allows. At this time the unit is programmed

5   according to New Jersey law to have a maximum of

6   two and a third and final paper record. It does

7   present a warning notice as shown in sub item

8   two and then if they did cast the vote it is in

9   the final and as we stated earlier that third

10 time because you cannot make changes to the

11 VVPAT it does scroll down quickly and in the

12 firmware we will structure it so goes in the

13 same manner as the first and second to give an

14 opportunity for the voter to see the third and

15 not changeable is indeed in there.

16   MR. WOODBRIDGE: If the voter

17 rejects the contents of the paper record, he or

18 she may recast the ballot up to two additional

19 times. This procedure is consistent with

20 current State law.

21   MR. SMITH: Yes, sir and because

22 different states have different numbers, we

23 allow the votes that number of times.

24   MR. WOODBRIDGE: Two, before the

25 voter causes a third and final paper record to

1 be printed, the voter shall be presented with a

2 warning notice on the machine that the

3 selections on the DRE will be final. The voter

4 will see and verify a printout of the votes, but

5 will not be given additional opportunities to

6 change any vote. The third ballot cast shall

7 constitute the final and the official ballot of

8 such a voter.

9   MR. SMITH: It does behave in that

10 manner.

11   MR. WOODBRIDGE: As I recall from

12 your earlier testimony, it provides a warning on

13 the LCD screen, is that correct?

14   MR. SMITH: That is correct.

15   MR. WOODBRIDGE: Does it provide

16 any other warning before the ballot that he or

17 she casts?

18   MR. SMITH: I believe it provides

19 it that one time. That would be a key part of

20 the process where you need to either say yes I

21 have done it and hit the button or go back and

22 reselect selections before the third time.

23   MR. WOODBRIDGE: Upon rejecting a

24 paper record, the voter shall be able to modify

25 and verify the selections on the DRE without

1 having to reselect all choices in all contest he

2 is on the ballot.

3   MR. SMITH: The machine does

4 behave in that manner. You can change one or

5 change the entire ballot.

6   MR. WOODBRIDGE: So if you change

7 your mind and you just change one vote for a

8 freeholder that is all you have to do, you don't

9 have to revote the entire ballot?

10   MR. SMITH: Yes, you can make one

11 change or if you decide the take it back the way

12 it was originally, you can do that and hit cast

13 vote. You can do it anyway you want to do it.

14   MR. WOODBRIDGE: Four, if a

15 mechanical error in recording or printing a

16 paper record occurs, the record shall be counted

17 as a spoiled paper record. It will not be

18 counted as one of the voter's three attempted

19 votes.

20   MR. SMITH: The machine behaves in

21 that way. So the printer confirms back the

22 finalized print it drops it in the box. It does

23 not signal the machine of the other chances.

24   MR. WOODBRIDGE: Five, the VVPRS

25 shall be designed to indicate the paper record

1   which the voter has identified and cast as his

2   or her official ballot.

3   MR. SMITH: It does identify that

4   through the word accepted. Accepted and cast.

5   MR. WOODBRIDGE: Next section is

6   section five, security and reliability. A,

7   VVPRS shall not be permitted to externally

8   communicate with any system or machine other

9   than the voting system to which it is connected.

10   MR. SMITH: As it's configured and

11   as you can see there is no opportunity to unplug

12   or transmit out, in other words, external

13   communicating.

14   MR. WOODBRIDGE: Assume we follow

15   the procedures followed by the election.

16   MR. SMITH: To some extent you,

17   but there is nothing structurally that allows

18   them to communicate externally.

19   MR. WOODBRIDGE: B, the VVPRS

20   shall only be able to function as a printer, it

21   shall not contain any other services, for

22   example, copier or fax functions or network

23   capability. The printer shall not contain any

24   component with an external communication

25   feature.

```
 1              MR. SMITH:  And it does not.

 2              MR. WOODBRIDGE:  The paper path

 3    between the printing, viewing and storage of the

 4    paper record shall be protected and sealed from

 5    access except by election officials authorized

 6    by each county commissioner of registration.

 7              MR. SMITH:  I think we viewed that

 8    earlier with the opportunity to place seals and

 9    tamper proof tape.

10              MR. WOODBRIDGE:  D, all

11    cryptographic software in the voting system

12    shall be approved by the U.S. Government's

13    Cryptographic Module Validation Program, if

14    applicable, prior to being certified in New

15    Jersey.

16              MR. SMITH:  The 256 produces

17    writing that is attached and we will find

18    numerous manifestations of it approved.

19              MR. WOODBRIDGE:  As stated in the

20    discussion portion of Section 7.9.3 of the

21    United States Election Assistance Commission

22    draft criteria for voter verifiable paper audit

23    trail requirement, there may be cryptographic

24    voting schemes where the cryptographic

25    algorithms used are necessarily different from
```

1 any algorithms that have approved CMVP

2 implementations, thus CMVP approved software

3 should be used when feasible, but it is not

4 required. The CMVP website is given.

5   If I understand correctly, the

6 cryptographic software we have the Government

7 Cryptographic Module Validation Program, is that

8 correct?

9   MR. SMITH: The 256 algorithm

10 approved part of the issue from CMVP. It only

11 includes end to end cryptographic solutions and

12 does not improve and cannot approve the million

13 algorithms when you put an approved algorithm

14 inside a piece of software such as a voting

15 machine, an ATM, any devices, satellites. The

16 CMVP does not go to approve everybody, but you

17 can clearly see from the website what algorithms

18 are part of the approved suite and they could

19 all the algorithms that the 256 is one of those.

20   MR. WOODBRIDGE: It says may.

21   Two, the vendor shall provide a

22 certification of CMVP approval, if applicable.

23 If not applicable, the vendor shall provide a

24 certification setting forth the reasons why CMVP

25 approval does not apply.

1   MR. SMITH: It is as I just stated

2   where CMVP does not approve the use of approved

3   algorithms with embedded systems. They couldn't

4   afford the manpower and staffing to go out and

5   approve everyone that is using the algorithm so

6   they don't -- they do approve solutions and they

7   do approve algorithms themselves.

8   MR. WOODBRIDGE: It seems to me

9   reading this literally that if that's the case

10   we need some sort of certification from you all

11   explaining the CMV approval.

12   MR. SMITH: We did provide that to

13   the Attorney General's Office I think two weeks

14   ago.   `

15   MR. WOODBRIDGE: They already have

16   that.

17   MR. SMITH: Yes.

18   MR. WOODBRIDGE: The printer be

19   connected to the voting machine either by

20   completely concealing the printer connection or

21   via a security tag to prevent tampering.

22   MR. SMITH: In the case of

23   Advantage one end of the cable is completely

24   shrouded and the other side a tamper proof seal.

25   MR. WOODBRIDGE: F, the DRE shall

1   detect and notify the election officials at the

2   polling place of any errors and malfunctions

3   such as paper jams or low supplies of

4   consumables, e.g., paper that may prevent paper

5   records from being correctly displayed, printed

6   or stored.

7   This was the subject of a comment

8   number nine where it said if a mechanical error

9   or malfunction occurs the DRE displays an error

10   message in both the operators panel and were in

11   LCD the voter the error doesn't always reflect

12   the actual diagnosis. Further more, if a

13   printer error occurs the printer has to be

14   powered down and then powered on again to return

15   to a workable status. The VVPRS appears out of

16   the unfinished printing context in a different

17   size and upside down on the paper.

18   MR. SMITH: We comply with the

19   regulations that State shall attain and notify

20   the election officials of any errors or

21   malfunctions. It clear that the unit does give

22   indication via LCD and the panel.

23   As for the particular

24   circumstances around that particular paper jam,

25   it is difficult to say because with the

1   interface with NJIT, but in any case it happens

2   to be a voter's third time to review the VVPAT

3   record they could of course void that and

4   continue to vote if they were unsure in the

5   paperwork or for some reason they could not view

6   it.

7   MR. WOODBRIDGE: We have NJIT

8   people here. I am a little confused. It says

9   error message does not reflect the actual

10 diagnosis.

11   Mitch, could you tell us exactly

12 what that means?

13   MR. DARER: There was six types of

14 errors and malfunctions tested. Paper jam,

15 paper broken within the one paper sheet broken,

16 broken at the end of a paper sheet. Printer

17 power disconnection, printer communication cable

18 disconnection and low paper supply. So those

19 are six different scenarios. Some involving the

20 paper, some involving the printer power, some

21 involving the printer communication cable and

22 the same error message was observed for each of

23 the first four, VVPAT printer error. So there

24 were misleading an error signal came up, but it

25 was not the correct one. It was misleading that

1   is what we encountered.

2   MR. WOODBRIDGE: What is the

3   misleading message? Did it say that there is a

4   printer error, but it doesn't tell you what the

5   error is, is that correct or a jam?

6   MR. DARER: The error messages was

7   either VVPAT printer error, printer off line or

8   VVPAT printer error out of paper. Those were

9   the only two error messages that showed up.

10 They showed up even if the problem was printer

11 communication cable disconnect, paper broken at

12 the end, low paper supply.

13   MR. WOODBRIDGE: So it gave you

14 basically only two flavors of error messages,

15 but it didn't give any --

16   MR. DARER: It did draw someone's

17 attention to it. But according to the

18 regulation in terms of a clear indication, we

19 felt it wasn't clear.

20   In 5G --

21   MR. WOODBRIDGE: We are not there

22 yet, but almost there.

23   MR. DARER: One after another and

24 we grouped them together.

25   MR. WOODBRIDGE: Let's go to 5G so

1   we can get the comments for the record. They

2   will cover 5F and 5E and Section G.

3   If a mechanical error or

4   malfunction occurs, such as, but not limited to,

5   a paper jam or running out of paper, the DRE and

6   VVPRS shall suspend voting operations, not

7   record votes and present a clear indication of

8   the malfunction to the voter and the election

9   officials.

10   MR. DARER: As I mentioned earlier

11 some of the criteria call for quantitative

12 assessment. Does it have it or doesn't and

13 words like easily or clear isn't there. We made

14 our interpretation of it and felt it wasn't

15 clear.

16   MR. FLEMING: But it was clear

17 there was a problem?

18   MR. DARER: Yes.

19   MR. WOODBRIDGE: It gives you two

20 types of instructions, but there are two types

21 of error messages, but more types of problems

22 than you can have clearly indicate what the

23 problem is. For example, can you distinguish

24 between error jam and running out of paper?

25   MR. ALLEN: With the regulations

 1   it is clear there is an issue that the paper

 2   records be displayed. So our contention of the

 3   version of firmware does actually confirm the

 4   letter requirements however we agree there could

 5   be more error types distinguished and the

 6   version form that is coming pending

 7   certification which should be available for

 8   State certification next two or three months

 9   does include more certification on the exact

10   cause.

11   MR. WOODBRIDGE: So in two or

12   three months we are likely to get some software

13   perhaps with some of these other things he is

14   talking about and be able to differentiate it

15   between some of the these types of errors?

16   MR. ALLEN: Correct, depending on

17   what the sensors are it will determine which

18   error type is likely to be spelled out.

19   MR. WOODBRIDGE: It seems to me

20   the most common type of error is paper low or

21   paper jam.

22   MR. ALLEN: If you find paper

23   movements and expect the papers to move and it

24   doesn't and the paper is not alone, then will be

25   able to say paper jam.

1   MR. WOODBRIDGE: Thank you.

2   Section H, if the connection

3   between the voting machine and the printer has

4   been broken, the voting machine shall detect and

5   provide notice of this event and record it in

6   the DRE's internal audit log. Voting operations

7   shall be suspended and no votes shall be

8   recorded.

9   We also have some comments from

10   NJIT on that regard. It says quote the printer

11   disconnections not recorded in the DRE's

12   internal audit log.

13   MR. SMITH: We have no contention

14   with that the version firmware under

15   certification. On the other hand in the second

16   sentence of this clause that operations be

17   suspended and no votes recorded. If the printer

18   is disconnected on the back of the units, the

19   unit knows that and the suspend voting

20   operations.

21   MR. WOODBRIDGE: Maybe I did

22   not -- my hearing isn't very good, but if the

23   connection is broken, is there a record of that

24   event in the DRE's internal log?

25   MR. ALLEN: In the other firmware,

1   the firmware in federal certification and will

2   be available to New Jersey in certification for

3   three months does record that event in the

4   internal DRE.

5   MR. WOODBRIDGE: To make sure I

6   understand it, you don't disagree with their

7   analysis in the first sentence, but there will

8   be software available or correction to do that?

9   MR. ALLEN: Correct. My

10 colleagues pointed out that even with this

11 version of firmware when the printer is

12 disconnected, the machine not only notifies, but

13 also suspends that so that part is met.

14   MR. WOODBRIDGE: Earlier there was

15 feedback between the printer and the machine

16 such that you can't go on the next one so this

17 is part of that.

18   MR. SMITH: Yes.

19   MR. WOODBRIDGE: Paragraph I, if

20 the voter's selection on the DRE do not match

21 the paper record, then the DRE shall immediately

22 be withdrawn from service. One, the affected

23 voter shall be able to vote on another voting

24 machine, if available, or by emergency ballot.

25   J, the vendor shall provide to LPS

1   documentation for the DRE and the VVPRS that

2   includes procedures for the recovery of votes in

3   case of a malfunction. LPS shall be responsible

4   for disseminating this information to the county

5   commissioners of registration.

6   MR. SMITH: We gave to the

7   Attorney General's Office some weeks ago for the

8   Advantage.

9   MR. WOODBRIDGE: K, Vendor shall

10 provide to LPS documentation for the DRE and the

11 VVPRS that includes recommended procedures to

12 enable the election officials to return a voting

13 machine to workable status after the machine has

14 malfunctioned, the printer needs tǫ be replaced

15 or a voter has used it incompletely or

16 incorrectly.

17   MR. SMITH: Once again, that is

18 part of the troubleshooting in the operating

19 manual.

20   MR. WOODBRIDGE: One, these

21 procedures shall not cause discrepancy between

22 the tallies of the electronic and paper records

23 it.

24   MR. SMITH: None of our procedures

25 call for involvement with the electronic paper

1   records and counting.

2   MR. WOODBRIDGE: Two, the LPS

3   shall be responsible for disseminating this

4   information to the county commissioners of

5   registration.

6   L, the vendor documentation shall

7   include procedures for investigating and

8   resolving printer malfunctions including, but

9   not limited to printer operations, misreporting

10 of votes, unreadable paper records and process

11 failures.

12   MR. SMITH: Once again, we sent it

13 to the Attorney General's Office in the trouble

14 shooting guide and included in that added to our

15 standard offering of that manual convincing

16 evidence that procedures are around printer

17 operations.

18   MR. WOODBRIDGE: If the machine

19 malfunctions or becomes inoperable, voters will

20 be entitled to vote by emergency ballot.

21   We historically required that

22 emergency paper ballot box be placed inside of

23 voting machines. I don't know whether they

24 still do it. What do you do with respect to

25 emergency ballots?

1   MR. SMITH: Paper ballots?

2   MR. WOODBRIDGE: Yes.

3   MR. SMITH: That is really a

4 jurisdictional issue. I don't believe --

5   MR. WOODBRIDGE: I believe the DRE

6 testing data require there been a box on the

7 side of the machine that included a pencil and

8 paper ballots. That may still be a valid

9 requirement.

10   It doesn't say so here explicitly,

11 but that is always been required by the State.

12 This criteria isn't as explicit as the gold

13 criteria was with respect to provided, for

14 example, emergency paper ballots sq that is

15 something that will resolve itself. If you were

16 required to place a box on the side of the

17 machine would that be any problem?

18   MR. SMITH: Well, the Advantage

19 base unit that you see over there has been

20 certified since 1994 so if there is a

21 requirement that the machine --

22   MR. WOODBRIDGE: Probably for

23 general certification.

24   MR. ROMEI: I'm Adolph Romei with

25 Sequoia. The machines that you are looking at

1 right here don't have a ballot box attached, but

2 at least one machine in every voting district in

3 machine has emergency ballot box. It is a

4 sealed ballot box itself attached by State law

5 to the machine so it is available already so

6 that is in the prior certification.

7   MR. WOODBRIDGE: That would be

8 including with these machines here, is that

9 correct?

10   MR. SMITH: Absolutely, there is

11 no change in that certification.

12   MR. WOODBRIDGE: I think my

13 recollection I think every machine is supposed

14 to have those on there whether the county

15 enforces that or not, I don't know. Everyone

16 should have on the side of it a place to put a

17 paper with thirty ballots.

18   Move to page eleven some of the

19 criteria coming past that point really aren't

20 directly relevant to the vendors.

21   So I am going to skip

22 certification Section 6A, B and C and skip down

23 to C1 and C2. The vendor shall provide to the

24 State, electronically and in hard copy, all use

25 and technical specifications and documentation

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 1   relating to the function of the VVPRS.

 2              MR. SMITH:  Yes, I believe we

 3   comply with that.

 4              MR. WOODBRIDGE:  Two, the vendor

 5   shall submit a certification that the VVPRS

 6   satisfies the State's criteria.

 7              MR. SMITH:  We provided it.

 8              MR. WOODBRIDGE:  You provided it,

 9   is that correct?

10              MR. SMITH:  Yes.

11              MR. WOODBRIDGE:  The next section

12   actually we dealt with at the very beginning on

13   our checklist, but I will read it anyhow.  D, a

14   VVPRS shall not at any time contain or use

15   undisclosed hardware or software.  The only

16   components that may be used in the system are

17   components that have been tested and certified

18   for use in the State.

19              MR. SMITH:  Yes, sir, we are

20   complying with that.

21              MR. WOODBRIDGE:  The vendor will

22   be required to provide the source code for the

23   DRE and the VVPRS to the State and/or to place

24   such source code in escrow to allow for

25   independent testing by the State at its
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 1   discretion.  Upon request, the State will enter

 2   into a nondisclosure agreement with the vendor.

 3                MR. SMITH:  We are negotiating

 4   that now and we will comply with that.

 5                MR. WOODBRIDGE:  You're

 6   negotiating?

 7                MR. SMITH:  We're negotiating

 8   that.

 9                MR. WOODBRIDGE:  Do you keep your

10   escrow?

11                MR. SMITH:  Yes, through the State

12   requires.

13                MR. WOODBRIDGE:  How far along are

14   you with the certification with the State of New

15   Jersey?

16                MR. SMITH:  We have a substantial

17   draft.

18                MR. WOODBRIDGE:  The draft of the

19   Attorney General's Office.

20                MR. SMITH:  I believe it is in at

21   this time.

22                MR. ROMEI:  We do indeed have a

23   draft.

24                UNIDENTIFIED SPEAKER:  We believe

25   the draft is final subject to a remaining
```

 1 comment by the Attorney General's office and

 2 that agreement expressly addresses the source

 3 code.

 4   MR. WOODBRIDGE: Okay, the vendor

 5 will be responsible for the cost of any testing

 6 of the VVPRS that the State deems necessary to

 7 achieve certification.

 8   G, vendor documentation shall

 9 include printer reliability specifications

10 including Mean Time between failure estimates

11 and shall include recommendations for

12 appropriate quantities of backup printers and

13 supplies.

14   MR. SMITH: We have supplied that

15 to the Attorney General's office.

16   MR. WOODBRIDGE: Mean Time between

17 failures. Section seven, pre-election

18 procedures and post-election procedures were on

19 the checklist.

20   A, a VVPRS's components shall be

21 integrated into the existing local logic testing

22 procedures performed by county election

23 officials which are performed in preparation for

24 an election.

25   MR. SMITH: Our response to that

1　is our equipment is certainly able to perform

2　tests the other machines past.

3　　　　　　　　MR. WOODBRIDGE: In fairness we

4　asked this from the checklist.

5　　　　　　　　I am going to skip over sections

6　8A, B and C because they are not relevant to

7　this hearing.

8　　　　　　　　Go to 8D, in case the machine

9　cartridge becomes unreadable or is damaged for

10　an audit or recount, the county commissioner of

11　registration shall produce the ballot image

12　audit log from the machine. The vendor shall

13　provide to LPS documentation regarding the

14　production of such audit log.　　　　　`

15　　　　　　　　MR. SMITH: Yes, that is in the

16　operations manuals and various other manuals we

17　provided to the attorney.

18　　　　　　　　MR. WOODBRIDGE: Similarly, 8E,

19　the paper record shall be created such that its

20　contents are machine readable for purposes of

21　any recount, audit or initial tallying of an

22　election in the event that the machine cartridge

23　containing the electronic record is not usable.

24　　　　　　　　MR. SMITH: It is.

25　　　　　　　　MR. WOODBRIDGE: This may be

1 redundant. The paper record shall contain error

2 correcting codes for the purpose of detecting

3 read errors. This may be done by barcode.

4   MR. SMITH: As we discussed, it

5 is.

6   MR. WOODBRIDGE: G, the vendor

7 shall provide to LPS written procedures to

8 identify and resolve any discrepancy between an

9 electronic record and its corresponding paper

10 record. LPS shall be responsible for

11 disseminating this information to the county

12 commissioners of registration.

13   MR. SMITH: Yes.

14   MR. WOODBRIDGE: H, the vendor

15 shall provide written procedures for determining

16 what constitutes clear evidence that a paper

17 record is inaccurate, incomplete or unreadable.

18 LPS shall be responsible for disseminating this

19 information to the county commissioners of

20 registration. Now, the vendor shall provide

21 written procedures for determining what

22 constitutes clear evidence that a paper record

23 is inaccurate, incomplete or unreadable.

24   MR. SMITH: Yes, we have provided

25 that as part of the machine.

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 1                MR. WOODBRIDGE:  It would seem to
 2   me if a paper record was unreadable, it is not
 3   readable.
 4                We walked through the different
 5   sections of the statutes we do have a few more
 6   questions.  Do we have copies of certification
 7   from other states?  This accommodation with the
 8   printer.
 9                MR. SMITH:  Yes, sir, it is.
10                MR. WOODBRIDGE:  The DRE has been
11   approved by other states, is that correct?
12                MR. SMITH:  Yes, statewide
13   implementation in Louisiana.
14                MR. WOODBRIDGE:  Any other states?
15                MR. SMITH:  Yes, sir, Colorado.  I
16   really need someone in sales at this point, but
17   we can find that list.  I just can't recall off
18   the top of my head.
19                MR. WOODBRIDGE:  You will provide
20   copies of documentation.
21                MR. SMITH:  The Advantage has
22   always gone through Wyle Labs.
23                MR. WOODBRIDGE:  Any other ITA
24   documentation?
25                MR. SMITH:  A system as a whole we
```

1 took the management and procedure end to end

2 qualification, but all of the hardware in the

3 Advantage and other offerings all was Wyle Labs

4 or Assist Labs.

5   MR. WOODBRIDGE: Before we get to

6 the public input is David Millstein here? Would

7 you come here for a second.

8   We have a gentleman here who wants

9 to address the issue of the disability and in

10 order to fairly wrap this up. Mr. Millstein,

11 thank you for coming here today. We have just

12 been through a fairly long and somewhat tedious

13 piece by piece review of the equipment that is

14 in front of us.

15   The only remaining component

16 before we could take public input is to get your

17 input with regard to the functionality of the

18 machine with regard to people who are visually

19 or audibly impaired and I understand your

20 prepared to comment on that.

21   MR. MILLSTEIN: I am, yes. Good

22 afternoon, my name is David Millstein. I am a

23 State ADA administrator, the Americans With

24 Disabilities Act. Yesterday afternoon we did a

25 review of the machines to my left and also to my

 1   right. The machines to my left do have the

 2   proper clearance that we are looking for for a

 3   wheelchair user to roll directly under to be

 4   able to utilize the machine for voting. The

 5   clearances we have are twenty-nine inches for

 6   underneath. We have a twelve-inch spread to

 7   allow for the wheelchair to go fully under with

 8   a person doing a forward reach. The reach

 9   itself as the clearance from side to side is

10   anywhere from thirty-six to forty-eight inches

11   for clearance.

12   We also had a person from the

13   department of human services who is visually

14   impaired, blind, to actually do a test and do a

15   voting ballot. We used audio for that. We

16   hooked up speakers instead of the actual

17   headphones for us to here as well as herself.

18   The way the machines operated for her was that

19   the instructions were very well read, very well

20   heard.

21   When it came to the actual ballot

22   for voting the voice synthesizer was usable

23   hearable, but was not the best. The key pad

24   which is a small hand held type remote was very

25   well addressed with brail for each of the

1   buttons explaining what button is being used for

2   and there was no problems with her using the

3   machine to vote.

4   We did certify what she did put

5   into the machine for her requests did come out

6   on the paper for what was inputted by her. The

7   machines to my right.

8   MR. WOODBRIDGE: Before we go

9   ahead you said machines to your left which

10 machine are you referring to, is that referring

11 to the Sequoia Advantage machine.

12   MR. MILLSTEIN: That would be the

13 large machines over here.

14   MR. WOODBRIDGE: On the front

15 left?

16   MR. MILLSTEIN: Yes.

17   MR. WOODBRIDGE: I want to make

18 sure for the record we understand what machines

19 you are pointing to with regard to comments.

20   MR. MILLSTEIN: The machines to my

21 right. Those also are usable machines by both a

22 wheelchair user as well as someone who has a

23 visual impairment. The machines do rise up and

24 down.

25   MR. WOODBRIDGE: Mr. Millstein,

1 those machines on the right-hand side are the

2 Advante machines, not these ones. The ones we

3 are concerned with are just those ones over

4 here.

5   MR. MILLSTEIN: So I guess in

6 closing -- so we are only going to be speaking

7 the machines to the my left. Those machines are

8 usable for both a person who is a wheelchair

9 user a person who would have a visual impairment

10 being youth rise the machine. The machine is

11 workable readable has voice activation for both

12 the voice synthesizer as well as the

13 instructions.

14   Everything that was inputted by

15 the user did certify by paper trail so at this

16 point I would say yes, this would be a certified

17 machine to someone with a disability.

18   MR. WOODBRIDGE: Thank you very

19 much for your input.

20   Why don't we take a five-minute

21 break and then we will come back we will take

22 public comment. I would suggest that we have

23 six people signed up for comments.

24   Now, if you do want to speak don't

25 forget to sign up so we will reconvene in five

1   minutes and take the public comment in the order

2   signed up.

3   Thank you.

4   (Whereupon, a short recess was

5   taken.)

6   MR. WOODBRIDGE: Before we go into

7   public session and get public comment,

8   Mr. Fleming and Mr. Mahoney have one or two

9   questions to ask so while everyone getting ready

10 I will ask Mr. Mahoney to go first.

11   MR. MAHONEY: The question I have

12 during the prelogic and accuracy test when the

13 technicians are setting up the machine if the

14 VVPRS also tested at that time?

15   MR. SMITH: Yes, it is the

16 procedures that we have given in the

17 jurisdictions, for instance, the Edge with VVPAT

18 call for the same testing that you do today with

19 VVPAT, however, we take the secondary step the

20 taking the VVPAT record matches the script

21 whether its simulation whether it be by manual.

22   MR. MAHONEY: Thank you.

23   MR. WOODBRIDGE: Mr. Fleming.

24   MR. FLEMING: A lot of questions

25 we have had have been based on fixed in the

1   firmware and you said the firmware is being

2   tested by the federal government?

3   MR. SMITH: Yes.

4   MR. FLEMING: Is there any reason

5   why NJIT couldn't get and test at the same time

6   and answer all the questions?

7   MR. SMITH: There is two aspects

8   to that one. I believe it is clear that it

9   needs to be certified and gone through the

10 testing. Second, the timing of the regulations

11 prohibited that.

12   MR. WOODBRIDGE: We are going to

13 head into the public comment part of the area.

14 This is the last part and I appreciate your

15 patience especially those who want to speak.

16 Again, just to refresh our collective memories,

17 if you have questions comments please address

18 them to me.

19   You will do us a large favor if

20 you keep comments directed towards the issue the

21 committee has to deal with, namely, whether or

22 not this particular piece of equipment meets the

23 State guidelines.

24   Having said that we have a sign-up

25 sheet and I am delighted to ask those who have

1   signed up to come in order and I will start out

2   with Penny Venetis from the public advocates

3   office.

4   MS. VENETIS: I just want to make

5   one minor correction before I speak. My name is

6   Penny Venetis, that is true, but I actually am a

7   law professor at Rutgers Law School. I am not

8   with the public advocates office.

9   MR. WOODBRIDGE: My apologies.

10   MS. VENETIS: In my capacity as a

11   clinical professor at Rutgers Law School, I'm

12   also lead counsel in a lawsuit called Gusciora,

13   versus Corzine which many people in the room

14   might be familiar with and that lawsuit

15   challenges on constitutional grounds the -- I'm

16   going to continue the lawsuit Gusciora, versus,

17   Corzine was filed in 2004 and challenges on

18   constitutional grounds the use of electronic

19   voting machines in the State that do not produce

20   a voter verified paper ballot.

21   I would like the record to reflect

22   my strong belief that this committee should not

23   certificate the AVC Advantage printer that has

24   been demonstrated today and that AVC Advantage

25   should be replaced with optical scanners that

1   scan paper ballots. Since the Help America Vote

2   Act was passed by Congress in 2001 and states

3   began spending money on audible electronic

4   voting machines, computer scientists have

5   offered study after study that electronic voting

6   machines can be tampered with to manipulate the

7   election. That vulnerability is the thrust of

8   the Gusciora lawsuit. Because of the

9   vulnerability pose for our most fundamental

10   right to vote by electronic voting machines our

11   own State legislature now requires that every

12   voting machine in the use in the State produce a

13   voter verified paper ballot by January 1st,

14   2008, which is a short five months from now.

15   As I have maintained since the

16   Gusciora lawsuit filed in 2004, New Jersey's

17   electronic voting machines cannot be trusted

18   with the right to vote. The Sequoia AVC

19   Advantage, which is most commonly used

20   throughout the State could be manipulated fairly

21   easily. In deed Professor Andrew Apel of

22   Princeton University was able to break into

23   control panel and remove the ROM chip of AVC

24   Advantage which contains valuable information on

25   how votes are cast and stored and tallied in a

1   matter of seconds. Professor Apel made front

2   page news when he purchased five AVC Advantage

3   series for less than seventeen dollars each from

4   an Internet clearing house called govdeals.com.

5   This purchase made clear that

6   anyone can buy the very same electronic voting

7   machines used by the majority of the voters in

8   the State and that anyone can tinker with them

9   and learn how to manipulate them to throw an

10 election.

11   Unfortunately, despite evidence of

12 its many vulnerabilities, the software of the

13 AVC Advantage has still not been tested. The

14 NJIT contract that we spoke of for many hours

15 today did not require testing of the software.

16 It only requested testing of the hardware to see

17 whether or not the hardware performs. This new

18 testing of not only hardware and software I

19 believe is mandated by Title 19 given that we

20 have heard repeatedly today that new software

21 was introduced to operate the voter verified

22 paper ballot printers and that new software wear

23 has been introduced to make the machine

24 compliant with the legislature's January 1st

25 requirements.

1   So I request that this committee

2 not only examine the firmware, but also examine

3 the software because it is new and Title 19

4 requires that when modifications are made to

5 voting machines, regardless of whether they are

6 electronic or nonelectronic, that the entire

7 system has to be recertified and that does not

8 appear to have been done or to even have been

9 discussed today.

10   Without such certification, these

11 machines cannot be used given that they have

12 been modified so substantially.

13   Additionally, Cyber Labs which

14 Sequoia has used to certify its software has

15 been permanently decertified by the federal

16 government.

17   Now, Mr. Woodbridge, you asked

18 some follow up questions about the certification

19 and the Sequoia representative very definitely

20 refused to truthfully give you information. He

21 said that there are some software that is being

22 tested or some hardware being tested by Wily

23 Labs, but the firmware my understanding is has

24 been used in the past was tested by Cyber. In

25 July of 2006, Cyber was decertified by the

1 federal government and only a few weeks ago was

2 permanently decertified by the federal

3 government. The reason Cyber lost its

4 certification was that it is was not applying

5 its own standards in testing the voting machines

6 and the government felt that any reports that

7 were issued by Cyber were not -- indeed did not

8 reflect whether or not the voting machine did

9 indeed meet safety and security guidelines and

10 federal qualifications.

11   So I ask that you follow up with

12 some questions about what portions of this

13 machine that has been demonstrated today was

14 tested by Cyber Labs.

15   The NJIT team outlined twelve

16 critical problems that arose during the testing

17 of the printers and should give this committee

18 pause and cause it to reject the printers. I

19 will not go into detail on those twelve

20 exceptions because we have spend the entire day

21 discussing them.

22   What I do want to point out though

23 is that those twelve exceptions and the answers

24 given by the Sequoia representative makes very,

25 very clear that these machines are not ready for

1 State certifications. These machines and the

2 printers that have been demonstrated do not meet

3 the new guidelines that were promulgated by the

4 New Jersey Attorney General's Office and I won't

5 go into the specifics or problems with what I

6 believe exist in the guidelines. I have done

7 that in written comments and that is not the

8 subject of today's hearings, but based on the

9 guidelines that actually exist there are serious

10 problems and reasons why this committee should

11 recommend that the voting machines should not be

12 certified.

13   Now, members of the Sequoia team

14 have told the State several things they said

15 that certain parts exist to make the machine

16 tamper proof, but those parts were not provided

17 to the NJIT team until after the testing had

18 been done. We will only have the NJIT's team

19 results to go by. We don't know whether or not

20 those tamper proof seals exist or not and until

21 further testing is done we really won't know

22 whether or not that very critical security issue

23 that was raised by the NJIT team can even be

24 resolved.

25   Secondly, there have been several

1 mentions made the software that is in the

2 process of being developed that we have heard

3 will be made available to the NJIT team that

4 might remedy some of the problems that the NJIT

5 team recognize with the printers. Well, again,

6 first of all, the software won't be made

7 available for another two to three months. That

8 is what was estimated. That brings us

9 dangerously close to the January 1st, 2008

10 deadline.

11   Secondly, again, we don't know

12 whether or not the software will indeed solve

13 problems that was raised by the NJIT team and we

14 have absolutely no way of verifying that until

15 it is provided to the State and that software is

16 tested to see whether or not it addresses the

17 NJIT team concerns.

18   Third, again, since this is a

19 modification of software that we are talking

20 about when this software if and when it is

21 produced, it will require a complete and total

22 recertification of the entire voting mechanism.

23 Not just a test of the hardware to see how many

24 votes it processes, but an entire testing of the

25 software.

1   Finally, the NJIT team tested a

2   very small number of voting machines. Computer

3   scientists have made very clear that each voting

4   machine contains software that can be

5   manipulated and altered in very specific and

6   unique ways. Therefore, each voting machine has

7   to be certified and the software has to be

8   certified.

9   I also asked the committee to ask

10 further questions about the barcode issues that

11 had been raised. I am not a computer scientist,

12 but I have been working very, very closely with

13 computer scientists who looked at NJIT reports

14 an also had serious questions about the barcode

15 issue and whether or not you could actually

16 match a barcode with a specific machine.

17   Barcodes can be very, very easily

18 manipulated and I will provide the commission

19 with a certification that was drafted by one of

20 my expert witnesses, Andrew Apel of Princeton

21 University who took issue with the barcodes that

22 exist.

23   I also want to say that according

24 to the contract between the State and NJIT,

25 there was no testing of the barcode required to

1 make sure that there was an encrypted barcode

2 that was secure.

3   So I would recommend that the

4 State if the State goes interested in that

5 pursuing that issue further that the contract be

6 expanded so that the NJIT team can really

7 determine with certainty how secure the barcode

8 is. That is particularly important because if

9 you are going to have -- if you are going to

10 count the voter verified paper ballots which is

11 the official ballots using a barcode scanner

12 then the barcode has to be secure plus the

13 scanner has to be tested to make sure the

14 scanner hasn't been manipulated. So I wanted to

15 raise that issue for the committee.

16   As mentioned earlier the problems

17 that were identified by the NJIT team alone

18 warrant the rejection of the entire system that

19 has been presented to the committee today and

20 that is the subject of these hearings. The AVC

21 Advantage printer reveals itself to be unsecure

22 unreliable and explicitly and specifically fails

23 to meet the State mandates.

24   Surely this is not the system that

25 the legislature contemplated when it mandated

1   all electronic voting machines produce voter

2   verified paper ballots to instill voter

3   confidence. It would be a tremendous waste of

4   taxpayer dollars at this point to spend any

5   funds, in particular, dozens of millions of

6   dollars to purchase this faulty system.

7   So, again, I urge the committee to

8   reject the system that's been presented. I am

9   planning and have spoken to the chair of the

10 committee about submitting written comments and

11 elaborate further on the comments that I have

12 made today. I also in addition to asking the

13 committee to ask the members of the Sequoia team

14 about the Cyber Certification Group and also

15 about the barcode.

16   I also ask the committee in making

17 its determination as to whether or not to

18 certify these machines to take into account

19 Sequoia Corporation as a whole and whether or

20 not it is a credible corporation whether or not

21 it is an honest corporation. There have been

22 several representations made today that are

23 simply not true. One representation is that

24 Sequoia is a U.S. corporation. It is not, it is

25 a Venezuelan corporation that was under federal

1 investigation and the Venezuelan Government,

2 rather than complying with various federal

3 investigations, said it was selling off Sequoia

4 so that it wouldn't have to respond to

5 governmental questions concerning holdings of

6 the corporation by the Venezuelan Government.

7 In addition, there is ongoing federal

8 investigation on fraud. Charges against the

9 corporation that is independent from the

10 investigation into whether or not elections

11 should be run by a foreign owned corporations.

12   The other issue representation

13 that have been made deal with the usage of the

14 AVC Advantage. Yes, it has been used in several

15 states as has been the Edge, but it also has

16 been decertified by several counties and states.

17 Louisiana is selling off its Advantage machines.

18 It doesn't want them anymore and that is indeed

19 how Professor Apel got the machine off the

20 Internet because it was being sold off and

21 disregarded by the State of Louisiana. Thee

22 have been multiple problems with the Sequoia

23 machines. In Chicago is another place that was

24 mention. Front page New York Times and other

25 newspaper headlines when Cook County was using

1 the Sequoia machines for the first time they

2 were breaking down and there were findings that

3 misrepresentations had been made during the

4 purchase phase. In Mercer County alone

5 misrepresentations were made about when certain

6 products, the voter verified paper ballot

7 counter would be available. It was promised

8 five years ago.

9   Again, this should all go into the

10 picture of the committee in determining whether

11 or not it should spend good taxpayer dollars on

12 these machines that do not on their face meet

13 State certifications requirements and, again, I

14 am going to supplement these comments with my

15 written comments and I thank the members of the

16 committee for their kind attention.

17   MR. WOODBRIDGE: Thank you very

18 much. I understand that the written comments

19 will be provided within the week, is that right?

20 Thank you very good comments.

21   In the interest of moving things

22 along, I think it is smart that get everybody's

23 input. If there is any reaction to the response

24 by Sequoia representative or committee that will

25 be the best time to do it so they have their

1 chance to say their peace.

2 Is Flavio Kowver here.

3 MR. KOWVER: Mr. Woodbridge and

4 members of the committee, good afternoon. My

5 name is Flavio Kowver, deputy public advocate.

6 The mission of the Department of the Public

7 Advocate is to make government more accountable

8 and responsive to the needs of New Jersey

9 residents.

10 The public advocate's mission is

11 to act as a voice of the people on a range of

12 critical issues and that vigorously impact the

13 public. The public advocate appears in these

14 proceedings pursuant N.J.S.A. 57:27W59, which

15 among other things, authorizes the Department to

16 protect the public interest by participating and

17 intervening in administrative proceedings. We

18 also appear pursuant to our rights as a member

19 of the public.

20 In furtherance of public advocates

21 mission, the public advocate is undertaking the

22 voting rights campaign. On the issue of voting

23 machines specifically for months the public

24 advocate has consistently taken the position

25 that it is necessary to have rigorous State

1   level certification of our voting machines.

2   That includes specific standards define what

3   that rigorous testing is, that the complete

4   machine be tested and the test simulate election

5   day conditions.

6   The department in some is working

7   to create a system in which all voters can

8   justify being confident and we present these

9   comments today to address the questions of

10 whether the use of the Advantage machines and,

11 in fact, creates a situation in which voters can

12 justify the confidence of their election

13 machine.

14   My colleague, Alex Glad, sitting

15 to my left here will bring up to you a number of

16 exhibits that we have prepared numbers one

17 through sixty-seven. We will not be using

18 thirty-eight, thirty-nine, fifty or sixty. We

19 will provide exhibit sixty tomorrow.

20   This list of exhibits with the

21 exception of last five was communicated to the

22 Attorney General on the morning of Thursday,

23 July 19, in fact, I might add before the NJIT

24 report was, in fact, issued and I would simply

25 make reference to that as well as to our prior

1   letter to the Attorney General of July 16 as

2   part of the record of this case. We, of course,

3   reserve the right to introduce additional

4   exhibits or testimony as further evidence maybe

5   induced in the course of these hearings.

6   Mr. Chairman, in this age of

7   electronic voting, the thorough and scientific

8   testing and certification of voting machines can

9   make a difference between a fair election and an

10 unfair one. The right to vote is the hallmark

11 of citizenship, the foundation of democracy and

12 it is too important to be left on machines that

13 may malfunction, printers that may jam or to

14 hackers who may seek to alter election results.

15   As I mentioned before, the public

16 advocate has for many months been urging the

17 Attorney General in the State chief election

18 official to ensure adequate testing and

19 certification of voting systems that we all use

20 in upcoming elections. This mandate is

21 especially present as the State prepares to the

22 comply with the statute that takes affect in

23 January 1, 2008 requiring paper records of some

24 sort in all voting machines whether through DRE

25 or through different systems where the voter

1 | marks a paper ballot such as an optical scan.

2 | In any events, the State must

3 | purchase and install more than ten thousand

4 | voting machine printers or similar paper based

5 | systems.

6 | While the Attorney General has

7 | taken the step of seeking independent testing of

8 | the printers under consideration, the public

9 | advocate continues to have serious concerns

10 | about both the standards under which the testing

11 | took place and the results of this test.

12 | The committee is now receiving

13 | evidence to determine whether those printers

14 | proposed for the three voting machines used in

15 | New Jersey have been thoroughly tested. The

16 | this committee will then make a determination to

17 | the Attorney General. As a result, the

18 | questions before the voting machine examination

19 | committee is, therefore, whether Sequoia has met

20 | its burden by proving by at least a

21 | preponderance of the evidence that the Advantage

22 | in this case which has been proposed for use in

23 | New Jersey by January 1st, 2008 meets all the

24 | statutory criteria applicable for the voter

25 | verified paper record system. In particular,

1 our focus is on five of these criteria.

2   Number one, the machines have been

3 thoroughly tested.

4   Number two, that the machines are

5 found to be reliable.

6   Number three, that they are found

7 to guarantee secrecy to all voters in the act of

8 voting.

9   Four, will correctly register and

10 record and accurately count all votes cast and,

11 five, that each voting machine shall produce an

12 individual permanent paper record for each vote

13 cast which shall be made available for

14 inspection, verification by the voter at the

15 time the vote is cast. Based on the record

16 presented, Mr. Chairman, Sequoia has not met

17 those elements.

18   The need to completely and

19 thoroughly test voting machines and their

20 printers prior to election day is clear when one

21 considers the history of these devices. In

22 records we have submitted, we have demonstrated

23 various recent elections where printers in

24 particular as well as other components of voting

25 machines have failed, sometimes on a massive

1   basis.

2   While it's true not all these

3   examples represent products of Sequoia or

4   represent products of the Advantage, we

5   nevertheless have an instance in the 2006

6   primary election held in Ohio lost ten percent

7   of the paper ballots and in the November 2006

8   election, a county in North Carolina experienced

9   problems in about nine percent of printers

10 there.

11   Again, while not Sequoia printers,

12 the fact that manufacturers who are supposedly

13 enjoy the benefit the federal testing have their

14 printers fail demonstrate the thorough State

15 testing is appropriate to determine whether

16 similar debacles would occur here in New Jersey.

17 The lesson to be learned from this, therefore,

18 is readily apparent. Because voting machines

19 and printers present risk of malfunctioning and

20 breaking, proper rigorous an scientific

21 standards and proper rigorous and scientific

22 testing are required.

23   The current record fails to

24 establish the printers confirm to State law and,

25 therefore, the public advocate recommends that

1 on the record as it now exists these printers

2 not be approved. The criteria the State

3 promulgated for evaluating the reliability and

4 accuracy of these printers is really a problem

5 in the process of evaluating printers. These

6 criteria do not establish any definition of

7 failure or failure rate. Therefore, testers

8 cannot know what malfunctions or other problems

9 count as failures or when the number of such

10 problems amounts to a failure of the system.

11   In our April 16, 2007 comments on

12 this issue which are in the record, we make

13 clear that this represented a violation of legal

14 requirements of the State that machines be

15 thoroughly tested. You might consider this as

16 sort of an analogy. A professor is giving

17 somebody a test, he should let people know what

18 the passing grade for that test is and the

19 State's criteria don't say if a machine fails X

20 number of times in Y number of hours of testing,

21 the machine is a failure. It is unfair I think

22 both to the manufacturers as well as the public

23 to issue this test without stipulating the

24 passing grade.

25   In contrast to the New Jersey

1   standards, credible national organizations have

2   recommended standards for voting machine

3   certification. We address these in our

4   comments, but the Federal Election Assistance

5   Commission, for example, in its 2005 voluntary

6   voting systems guidelines and its 2002 voting

7   systems standards says that a voting system

8   should not be certified if a part of that system

9   malfunctions more than once after one hundred

10 sixty-three hours of voting and those standards

11 are reproduced in the record.

12   The National Institute of

13 Standards in Technology, in fact, goes even

14 further and they say a system should not be

15 certified if a device within that system

16 malfunctions more than once for every ten

17 thousand voters.

18   The State did not adopt these kind

19 of standards or meet any kind of standards for

20 determining the failure rate, nor did the State

21 follow the recommendations of these credible

22 national organizations on how to perform testing

23 to verify compliance criteria. 2005 volunteer

24 systems guidelines, for example, makes clear and

25 this is also in the 2002 -- I'm sorry voluntary

1   voters system guidelines makes clear that in

2   order to verify clients with this requirement

3   machines ought to be tested for at least one

4   hundred sixty-nine hours.

5   Another example of rigorous

6   testing methods is from the State of California

7   where they look a hundred machines for six hours

8   and have voters manually cast one hundred ten

9   ballots on each machine. If one percent of the

10 machine fails to count the vote properly or

11 three percent of the machines have failure such

12 as powering off of the machine or paper jam that

13 the operating system of the machine cannot

14 greatly manage the machine fails. The criteria

15 for voting machines adopted by this State in

16 which NJIT did not use this kind of modern

17 scientifically accepted methodology for testing.

18   What the State did instead was to

19 pick and choose from selected portions, not very

20 detailed and rigorous ones of the 2005 federal

21 guidelines and to ask NJIT to test to those ill

22 defined and nonrigorous standards. We did not

23 test for one hundred sixty-nine hours. As best

24 we can tell from this report, there was a twelve

25 hundred vote test somewhere on the order of

1 eight or nine hours and fourteen hour test took

2 fourteen hours for a total somewhere between

3 twenty and twenty-five hours of testing or so.

4 Not withstanding the claims of thousands of

5 hours have been devoted to testing. What I can

6 see from the NJIT reports is those were the two

7 tests, the two volume tests at issue which were

8 performed.

9   In fact, if these kinds of

10 standards had been in place, what you have seen

11 with the Sequoia machines is that they would

12 likely not have passed. While I respect NJIT's

13 views that the printer jam might not have

14 resulted in the loss of fifty-six votes, I will

15 accept for the sake of argument that

16 representation. Nevertheless, after in the

17 twenty-five or so hours of volume testing that

18 were done the machine jammed once. Jamming

19 after nine hundred twenty-two votes in a twelve

20 hundred vote test. So if the federal standard

21 one in one hundred sixty-three hours had been in

22 place or in the NIST standard of ten thousand

23 voters had been placed or even if the physical

24 standard of one percent and three percent of the

25 machine had been in place, that would have

1 | resulted in a failure and it is unfortunate that
2 | the State did not list and test to those
3 | particular standards. Those standards being
4 | scientifically accepted, modern, appropriate for
5 | printer testing.
6 | I would also add and the professor
7 | mentioned this before. I want to add to this as
8 | well. Given the testing appears to have focused
9 | on the printers alone rather than the system as
10 | a whole, this is somewhat problematic. Under
11 | State law any change to a voting system that
12 | impairs the efficiency of the voting system
13 | means the entire system has to be retested and I
14 | would refer you to both the 2005 guidelines as
15 | well as Exhibit 36 and, frankly, what doctor --
16 | it was a Sequoia representative that mentioned
17 | the addition of the VVPAT additional work to the
18 | voter.
19 | So what you have is the addition
20 | of the printer requires you to recertify the
21 | entire system before it can be used again in the
22 | State. Again, there is no evidence in the
23 | record of the meaningful review of this machine
24 | software or source code. I understand there is
25 | representations that some kind of examination is

1   underway, but it has not been completed as of

2   yet. Which would suggest to me that thorough

3   testing in this record has not occurred.

4   Let me just address some of the

5   exceptions that NJIT noted in its report. First

6   of all, it was said I think without conviction

7   that once the voter recess the button to cast

8   their third ballot, the ballot cycles through

9   the machine without stopping and it cycles

10 through in a manner that the voter does not have

11 sufficient time as doctor she stated before.

12 The voter does not have sufficient time to look

13 at and confirm whether those votes were

14 accurately cast. Again, the N.J.S.A. 1948 VVPAT

15 and what they are supposed to do that presence a

16 real problem with the statute as well as the

17 testing as performed by NJIT.

18   It was also stated before that

19 voting machines do not always display the proper

20 diagnosis of a problem. There is really know

21 evidence to contradict that. The evidence I

22 think is that a update of that software is in

23 testing, but as it stands right now it does not

24 meet that criteria.

25   I would also speak briefly about

1   exception twelve. I mentioned this before about
2   the paper jam. Even if you accept that the jam
3   would not have resulted in a loss of fifty-six
4   votes in a real election if you accept that
5   there was still a jam and it occurred in less
6   than time frame prescribed for failure by the
7   DSS, the voter verified system guidelines as
8   well as NIST standards.
9   In sum, Mr. Chairman, voters
10 deserve reasonable assurances that the machines
11 and printer are reliable accurate private and
12 secure. Statute requiring a paper record has
13 been replaced since July 2005. We are very late
14 in that process. I also want to raise the
15 concern that the NJIT reports were replaced late
16 on any after noon in the public and here we are
17 on a Tuesday morning. That presence a serious
18 issues as to whether the public and advocates
19 had enough time to road those reports, prepare
20 to respond and it causes me great concern that
21 these hearings move forward so precipitously and
22 so soon after the reports were published. We
23 previously articulated that to the committees
24 counsel so I am not going to repeat that again
25 today, but suffice it to say that three reports

1   have more than a hundred twenty pages each is a

2   little bit to digest in the course of one

3   business day.

4   For the reasons I have stated for

5   the reasons in the documents presented Sequoia

6   has not met its burden of establishing their

7   system has been thoroughly tested found to be

8   reliable or correctly registers to report all

9   votes cast and applied to the mandate every

10   voter to register their vote. On the present

11   record the certification should be denied

12   without prejudice to return when it confirming

13   system is presented.

14   MR. WOODBRIDGE: Thank you for

15   your comments. The timing is not good for

16   anybody.

17   Theresa Engel. Mike Van Pelt.

18   Ann Reu.

19   MS. REU: I'd like to thank the

20   committee for allowing me to speak. My name is

21   Ann Reu and I've come from Montclair, New Jersey

22   I am a member of Blue Wave New Jersey, a grass

23   roots political organization.

24   We have been concerned that any

25   voting system be secure, accurate and reliable.

1   In short we want every vote accurately counted

2   and in such a manner that the electorate will

3   have total confidence in the results of all

4   elections.

5   To this end, we have attended

6   meetings of our county Freeholder Board. We

7   have contacted our local election officials. We

8   have reviewed the purchase contracts between

9   Essex County and Sequoia. We have repeatedly

10 requested an opportunity to view and test the

11 proposed printer which is the subject of this

12 hearing. Despite these requests, no access to

13 the printer was given until today July 24, 2007

14 when the hearing is taking place. ˋ

15   Additionally, the report of NJIT

16 which tested the printer was not available until

17 the end of last week. We wish to express our

18 great concern and dismay that the procedure.

19 Instead of transparency and openness we feel

20 that there is only the illusion of a fair

21 process. That being said and with the

22 understanding we object to the framework of this

23 hearing, we would like to note the following

24 egregious shortcomings in this system which are

25 obvious even with the limited opportunity

1 afforded to observe the machine and prepare for

2 this hearing.

3   No real world testing has been

4 done. Instead of having a large number of

5 machines tested by average voters operated by

6 regular poll workers under conditions

7 approximating an actual election, three probably

8 brand new machines were tested under laboratory

9 conditions. We have no way of calculating the

10 probable failure rates based on these tests.

11 The underlying machine has not been properly

12 certified.

13   Additionally, even the inadequate

14 certification of the machine previously done is

15 no longer valid due to the modifications made to

16 accommodate the printer. The entire value of

17 the printed record is that it be voter verified.

18 The fact that there is no opportunity for the

19 voter verification of the third ballot after two

20 have been rejected suggests clearly fatal to any

21 possibility of accepting this machine.

22   This was the criteria set by the

23 Attorney General and despite of all the time

24 given to the manufacturer, they have not yet met

25 this minimal standard. A voter verified ballot

1 requires to the voter can see his actual final

2 ballot in the substantial number of instances

3 where the voter rejects his first two ballots.

4 There is no verification as of now. This must

5 be corrected before the next election.

6   The failure to demonstrate seals

7 and locking mechanisms at this late date is

8 another cause for concern. A follow up

9 demonstration should be in order to see the

10 promised changes.

11   As noted, there was insufficient

12 opportunity to review the report and observe the

13 devices to bring an exhaustive disposition of

14 their deficiencies, however, it is clear that

15 the machines not only have not been properly

16 tested, but even the tests done have

17 demonstrated fatal and egregious flaws. The

18 proposed purchase of these machines should not

19 go forward.

20   The voting machines have not been

21 modified to confirm with the minimal

22 requirements necessary to safeguard the

23 electoral process. For far less expenditure of

24 public monies, we can use a paper ballot with

25 optical scan counters and avoid the possibility

1   of fraud and manipulation inherent in the

2   proposed system. We must do as was done in

3   Florida, Maryland and other jurisdictions and

4   put the security of the vote first.

5   We strongly urge the proposed

6   devices be rejected. Thank you.

7   MR. WOODBRIDGE: Thank you very

8   much for your comments.

9   Mary Ellen Marino.

10   MS. MARINO: Thank you. Thank you

11   very much. Mary Ellen Marino, M-a-r-i-n-o. I

12   have to thank the other public testifiers

13   because they have worked long and hard and have

14   given me a lot of information that I didn't have

15   before, but I must admit that I was appalled to

16   walk in here at 9:00 o'clock and find out

17   immediately from the Attorney General that the

18   machines had already been decided on that they

19   were already okay and then by a few minutes

20   before 3:00 after spending three-quarters of the

21   a day I learned that that wasn't the case.

22   Not only were we only supposed to

23   talk about the printers and the paper trail, in

24   fact, it hadn't still been decided by the

25   Attorney General whether these machines were

1 acceptable or still in negotiation.

2   But the fundamental thing that I

3 want to do is just to submit an alternate. This

4 is unfortunately national numbers of voting

5 districts and cost, but to submit some cost

6 information on hand counting the ballots and/or

7 optical scanning the ballots because clearly if

8 what we want is the integrity of the vote and we

9 have been hearing more and more and more about

10 vote stealing, vote fraud and election fraud and

11 abuse that we must do what we can and that is to

12 have a public control of the elections publicly

13 counted and not hidden in some unverifiable

14 code.   `

15   I happened to work in the State of

16 New Jersey when we brought in computers

17 twenty-five years ago and we brought the Wang.

18 The Wang doesn't even exist anymore and it is

19 kind of the example of what we are doing now.

20 We are buying with big dollars machines that

21 haven't been tried and tested and true. If this

22 machine as I learned 3:00 o'clock was tested and

23 approved by the State in 1994 and they

24 continually and at this very moment is making

25 more changes. Then we haven't really tested and

1   approved the machines that you are talking about

2   having us use this year.

3   So I am just going to submit this

4   documentation and I thank you very much for

5   listening to me.

6   MR. WOODBRIDGE: Thank you for

7   your very nice well targeted comments. Thank

8   you very much.

9   Ellen Sleeter and before we begin,

10 there were two people who signed up whose names

11 appear here, but don't appear to be present so

12 if there is anybody that we overlooked, please

13 let me know.

14   MS. SLEETER: Hi, my name is Ellen

15 Sleeter. Battery failure, does that ever

16 happen. My name is Ellen Sleeter. I am from

17 Maplewood, New Jersey. I am active and an

18 organizer of Essex County Democracy for America.

19 We and Blue Wave comprised of voter task force

20 in Essex County to try to assert more

21 involvement in the acquisition of the voting

22 machines there.

23   I have one question which you can

24 answer at your leisure because I am the last

25 speaker, but, boy, I want to hear the answer and

1   then three comments and I will start with a

2   question.

3   MR. WOODBRIDGE: All questions to

4   the Chair.

5   MS. SLEETER: The question is

6   about digital signatures. Now, I heard -- I

7   read very clearly what I understood in NJIT's

8   response to their testing which was that the

9   individual ballot record did not contain a

10   digital signature. I heard in clarification

11   comments twice from Sequoia that yes, that was a

12   true observation that there was a digital

13   signature for the aggregate for that machine,

14   but later in this course on the same topic I

15   heard from another person in Sequoia that yes,

16   there was a digital signature at the barcode

17   level and, therefore, the barcode level

18   represented the individual ballot so that seems

19   to me to be in contradiction.

20   So I would like to be clear about

21   whether this did pass the test of having the

22   digital signatures at the ballot level currently

23   not in firmware that will be available in two to

24   three months. So that is the question.

25   Comments. I looked at the Sequoia

1   Advantage when I was first demonstrated at

2   Turtle Back Zoo in Essex County that was some

3   years ago and tested immediately. I have an IT

4   background. I worked in IT since the seventies.

5   I know about the Internet since many of you were

6   born. I tried to write in mechanism and was

7   appalled at the inability once having stated a

8   write-in that I couldn't somehow recall it. I

9   couldn't neither change it nor could I even see

10   what I had written in.

11   Now, in this demonstration day.

12   The good news is that you can on the paper

13   ballot see what you have written in. The bad

14   news is that it was very difficult from a user

15   interface standpoint and that is something I

16   know something about to know how to make that

17   change. I rejected the ballot, I saw it. I

18   can't recall -- I couldn't figure out how to get

19   myself into a reset mode on the write-in itself.

20   I finally did get myself into

21   reset mode and I am not sure how I did. That I

22   might have just changed the buttons and then it

23   gave me -- in the little panel it gave me these

24   arrows where I could accept it or reject it.

25   These arrows were pointing to something that was

1 unclear to me. So rejection was on the left

2 which is good for DFA and I pressed some buttons

3 and ultimately rejected the write-in and got a

4 chance to write it again. This is very hard. I

5 am a computer geek. You don't see my propeller

6 head, but it is there. That is a problem.

7   Three strikes I must register my

8 utter dismay at the inability to verify as

9 presented the third attempt at the ballot. We

10 understand that the legislation says you can't

11 change it, but the absolute assurety that

12 Sequoia presented about the fact that because it

13 says you can't change it, you don't need to

14 verify it because it is a done deal. That is

15 not okay. That is not good business.

16   The section 6C2 quote I heard the

17 vendor shall submit a certification that the

18 VVPRS satisfies the State criteria and Sequoia

19 said yes, they have submitted that. But how can

20 you submit a certification that you satisfy the

21 criteria when the NJIT report says that clearly

22 you have not. So maybe I don't understand that

23 process. I don't perhaps understand the

24 process.

25   Lastly, I urge you to reconsider

1   the Sequoia Advantage processor itself because

2   it is certainly changed and it has been not we

3   think credibly certified as a voting machine

4   itself. We think this is a great opportunity to

5   save the money that you would have spent on

6   retrofitting the Advantages with this printer

7   and go to paper ballots that are counted using

8   optical scanners.

9   Thank you.

10   MR. WOODBRIDGE: Thank you very

11 much. Do we have any other input from the

12 public?

13   Okay, seeing no input I ask the

14 vendors in they have any comments they would

15 like to make in response. Why they are

16 caucusing, I am going to ask the committee if

17 they have any questions to ask.

18   MR. CHAGARIS: May I ask the -- my

19 name is Arthur Chagaris on behalf of Sequoia.

20   I'd like to request that whatever

21 documentation has been submitted to the

22 commission today by the public advocate or would

23 be submitted apparently by Ms. Venetis and the

24 other witness that we also get a copy of that

25 information so we may have an opportunity to

1 review it if that is appropriate.

2   MR. WOODBRIDGE: I'm going to ask

3 the public advocate, are their copies that can

4 be provided to the vendor?

5   MR. KOWVER: They are not copies

6 of publication if they are requesting the

7 exhibits in as something we can provide probably

8 tomorrow.

9   MR. WOODBRIDGE: I think that is

10 what he is requesting and also in fairness to

11 the public advocate provided us with a list of

12 what these documents were going to be I presume

13 that is the same list as consistent with the

14 documents that we have.

15   MR. KOWVER: Yes, sir, I think the

16 list was one through sixty-seven.

17   MR. WOODBRIDGE: So maybe if you

18 could provide the list sooner rather than later

19 and get the follow up documents to them in the

20 day or two.

21   MR. CHAGARIS: Also, with respect

22 to the other two witnesses that they had follow

23 up statements, we'd like to get those statements

24 as well.

25   MR. WOODBRIDGE: I understand that

1 the professor is going to get us comments by the

2 end of the week, is that right, and Mary just

3 gave us your's, correct, so I think the answer

4 to that question is could you arrange to get a

5 copy to the attorney over here.

6   MR. CHAGARIS: As to the other

7 comments that were made at this time, I'd like

8 to present Mr. Adolph Romei as to sort of legal

9 issues and thereafter the other representative

10 from Sequoia would present some technical

11 issues.

12   MR. ROMEI: Adolph Romei on behalf

13 of Sequoia. There is a few misinformation that

14 seemed to keep circulating. One is that Sequoia

15 is not a U.S. company. Sequoia is a Delaware

16 corporation with headquarters currently in

17 Oakland, California.

18   MR. WOODBRIDGE: Get closer to the

19 microphone.

20   MR. ROMEI: Sequoia is a Delaware

21 corporation. The management is American. It is

22 based in Oakland, California at the current

23 time. It is not a foreign corporation.

24   Second item that seems to keep

25 coming up is federal investigations. To my

1 knowledge as outside counsel Sequoia is not the

2 target of any federal investigation.

3   Third, the issue of foreign

4 ownership. Sequoia voluntarily or I should say

5 its parents voluntarily filed a application it

6 is my understanding that that application has

7 been resolved there is no ongoing investigation.

8   If there is any further questions

9 the committee has.

10   MR. WOODBRIDGE: You said there

11 are some technical comments.

12   MR. SMITH: Mr. Chairman, just a

13 few comments. There have been some significant

14 comments. The question to be said about on page

15 six of the October 2006 federal certification

16 letter regarding it clearly indicates on page

17 six this is given to the Attorney General that

18 Wyle Laboratories did an assessment on the

19 Advantage firmware. That is clearly obviously

20 what you heard earlier, but it is here on page

21 six.

22   MR. WOODBRIDGE: Which firmware

23 are you talking about that Wyle did that testing

24 on?

25   MR. SMITH: About the Advantage.

1   MR. WOODBRIDGE: On this machine

2   here?

3   MR. SMITH: On that machine so

4   that is contradictory to what we heard.

5   There was some discussion on

6   barcode encryption. Barcode encryption is not

7   in the regulations. It is not required anywhere

8   so I am not sure why that is brought up as an

9   issue.

10   The question that was asked, the

11 short summary version is that if the electronic

12 records and when the polls are closed have to be

13 signed. The barcode of each individual which is

14 what is on the paper and not in the units have a

15 authorization for every cast vote record. So

16 those two are not contradictory because the

17 records are in different places. If you still

18 puzzled, I will be happy to speak to you about

19 it.

20   I think that is all I have for the

21 technical issues. In terms of just a short

22 summary of my remarks going back to the very

23 beginning of the day with NJIT and the testing

24 that they did was thorough and it was indeed

25 rigorous and the public advocates to state that

1 trying to disclaim that they are not. The

2 machines tabulate accurately and that they are

3 able to tie in in four places where the voters

4 intent is recorded in the machine and the paper

5 record which by the way, it is viewed by the

6 voter and it is thus independent of the software

7 and the machine which is more modern.

8   The fact is paper record and voter

9 gets to see it and it can be recounted and it is

10 protected with both physical and procedural

11 security and electronic security so that we know

12 that we can trust.

13   MR. WOODBRIDGE: Okay, is there a

14 short comment? Okay, we have got to wrap up

15 because we have got two more days.

16   MS. VENETIS: Yes, thank you very

17 much and this is just a follow up comment. This

18 is Penny Venetis from Rutgers Law School. Two

19 issues. The federal investigation there is

20 still an ongoing federal investigation on

21 bribery charges. The Miami Herold has

22 documented this quite well and continues to

23 document it.

24   Sequoia is a holding of a

25 Venezuelan corporation. That is why it was the

1   subject of a second federal investigation. The

2   company, the holding company said that it would

3   sell off Sequoia rather than continue to comply

4   with a request from the federal government. To

5   my knowledge, that sale has not yet occurred so

6   it is still a holding of a Venezuelan

7   corporation.

8   I would ask this committee to

9   specifically ask members of Sequoia whether or

10   not Cyber has tested any of the software in this

11   machine perhaps maybe Wyle did test a component,

12   but my understanding is from letters sent to

13   Judge Feinberg by the Attorney General's Office

14   that Cyber was indeed the laboratory that was

15   testing this components.

16   So it is a very simple question

17   and perhaps maybe Wyle did test some of the

18   components, but my understanding is that Cyber

19   also tested components and did indeed test the

20   bulk of the components and that information came

21   directly from the Attorney General's office.

22   Thank you.

23   MR. CHAGARIS: Just a short reply

24   as far as the investigation is concerned. I

25   don't know how there is disclosure of any kind

1 of federal investigation because it is my

2 understanding federal investigations are

3 supposed to be confidential, but we have not

4 been indicted for anything and as far as I know

5 we are not going to be indicted for anything.

6 So you can throw out loosely in terms of federal

7 investigation without any evidence that there is

8 such an investigation that we are a target or

9 anything, but it is just not the case.

10   MR. WOODBRIDGE: Okay, it is

11 getting towards the end. Make sure people

12 understand that this is not an easy

13 gratification exercise. We are to make some

14 sense out of this and then give to the office as

15 soon as possible some kind of recommendation.

16   Again, I want to stress that these

17 criteria are longer better or worse, but they

18 are longer than we have had to deal with before

19 and this is a new aspect of what we had to do so

20 I request your patience as we try to sort

21 through this and make some sense of it.

22   I do want to thank again NJIT for

23 sitting back there patiently in the hottest part

24 of the room and enduring this and helping us.

25 It's been extremely valuable and I am sure you

1 will have us who are here including the audience

2 appreciate. This goes beyond the call I ask

3 Tony, the court reporter, a question how soon is

4 it likely we can got the transcript.

5   I just want is to remind people

6 that the second day hearing start tomorrow. I

7 assume it will be at the same time so we will

8 see you here at 10:00 o'clock tomorrow morning.

9 At that time we will review the pros and cons of

10 the Sequoia Edge machine which is the other

11 machine over there in the corner and look

12 forward to seeing you there.

13   Thank you very much for your

14 patience and thank you for attending.

15

16   (Whereupon, the proceedings were

17   concluded at 4:20 p.m.)

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 1              C E R T I F I C A T E

 2

 3        I, ANTHONY HOFMANN, a Certified Shorthand

 4   Reporter, and Notary Public within and for the State

 5   of New Jersey, certify that the foregoing is a true

 6   and accurate transcript of the stenographic notes of

 7   said witness(es)who were first duly sworn by me, on

 8   the date and place hereinbefore set forth.

 9

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12                  _____
                    ANTHONY HOFMANN, C.S.R.
13                  LICENSE NO. XIO1854

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