

STATE OF CALIFORNIA

SECRETARY OF STATE

PUBLIC HEARING

PROPOSED CERTIFICATION OF VOTING SYSTEM

OFFICE OF THE SECRETARY OF STATE

1500 11TH STREET

1ST FLOOR AUDITORIUM

SACRAMENTO, CALIFORNIA

WEDNESDAY, FEBRUARY 20, 2008

10:02 A.M.

KATHRYN S. SWANK, CSR  
CERTIFIED SHORTHAND REPORTER  
LICENSE NUMBER 13061

PETERS SHORTHAND REPORTING CORPORATION (916) 362-2345

APPEARANCES

PANEL MEMBERS

Ms. Jennie Bretschneider, Moderator

Mr. Robbie Anderson, counsel for Election Division

Mr. Lowell Finley, Deputy Secretary of State, Voting  
Systems Technology and Policy

Mr. Chris Maio, Infrastructure Manager, Information  
Technology Division

Mr. Chris Reynolds, Deputy Secretary of State, HAVA  
Activities

ALSO PRESENT

Ms. Kim Alexander, California Voter Foundation

Mr. Paul Craft, Freeman, Craft, McGregor Group

Mr. Dan Kysor, California Council of the Blind

Ms. Jill LaVine, Sacramento County

Ms. Christina Lokke, California Common Cause

Ms. Lee Lundrigan, Stanislaus County

Mr. Steven Pearson, Election Systems & Software, Inc.

Mr. Brandon Tartaglia, Protection & Advocacy, Inc.

Mr. Steve Weir, Contra Costa County

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1 PROCEEDINGS

2 MODERATOR BRETSCHNEIDER: Good morning. And thank  
3 you for coming today. I'm Jennie Bretschneider, Assistant  
4 Chief Deputy Secretary of State, and I will be moderating  
5 the proceedings today.

6 This public hearing is designed to discuss the  
7 proposed certification of Election Systems and Software,  
8 Unity 3.0.1.1 Voting System.

9 Let me take a moment to take care of some  
10 housekeeping items. For those of you in the audience who  
11 would like to speak during the public comment period,  
12 there are signs at the table at the entrance to the  
13 auditorium, and we'll take speakers in the order in which  
14 they have signed in. Each person speaking under public  
15 comment will be allotted three minutes for a presentation.  
16 Anyone who wishes to submit written testimony can do so by  
17 delivering a hard copy or by e-mailing an electronic copy  
18 to [votingsystems@sos.ca.gov](mailto:votingsystems@sos.ca.gov). We'll post the written  
19 testimony we receive on the Secretary of State's Web site.

20 This hearing is being taped for broadcast and it's  
21 also being transcribed. All comments made verbally or in  
22 writing as part of this hearing are a matter of public  
23 record.

24 Please be courteous to all speakers. No  
25 interruptions will be tolerated.

1           The goals of this hearing are to hear ES&S Unity  
2 3.0.1.1 Voting System testing reports presented publicly;  
3 to give ES&S and the public an opportunity to comment  
4 publicly on those reports; to collect information from  
5 ES&S and the public that may help inform the Secretary of  
6 State's decision on certifying the ES&S Unity 3.0.1.1  
7 Voting System.

8           The Secretary of State will be reviewing the  
9 information and testimony provided by the public, the  
10 counties, the vendors, and others prior to taking action  
11 on this certification request.

12           The panelists here today won't be voting or  
13 deciding whether to adopt the report nor will they be  
14 commenting on the report's findings or expressing opinions  
15 on what the Secretary of State may do or should do as a  
16 result of the findings in this report.

17           Rather, the panel is here to formally receive the  
18 verbal report from the state's outside consultants, to  
19 receive comments from the voting system vendor and the  
20 public, and bring a variety of perspectives to the issues  
21 raised in the reports so that the panel may present that  
22 to the secretary when it comes time for her to sit down  
23 and review and analyze all the information that's been  
24 collected.

25           The panel members are Lowell Finley, Deputy

1 Secretary of State for Voting Systems Policy and  
2 Technology; Chris Maio, Infrastructure Manager for the  
3 Secretary of State's Information Technology Division;  
4 Chris Reynolds, Deputy Secretary of State for HAVA  
5 Activities; and Robbie Anderson, counsel for the Secretary  
6 of State's Election Division.

7 Delivering the state consultant reports today will  
8 be Paul Craft of Freeman, Craft, McGregor Group. And we  
9 also had scheduled to have Noel Runyan of Personal Data  
10 Systems. However, we just learned that Mr. Runyan has  
11 been delayed in transit and may not be here before the end  
12 of the hearing.

13 So what we will do is we'll have Paul Craft make  
14 his presentation and then make some brief remarks on the  
15 accessibility report prepared by Mr. Runyan. And then  
16 we'll have ES&S provide its comments on the reports. And  
17 then after that, we'll have the public comment period.

18 With that, let me introduce Paul Craft.

19 Good morning. And thank you.

20 MR. CRAFT: I am Paul Craft. I'm senior partner  
21 with Freeman, Craft, McGregor Group. We are the Secretary  
22 of State's consultant for four of the test modules of this  
23 certification project.

24 The four modules that we have covered were  
25 functional testing. Functional testing is a end-to-end

1 operation of the voting system in simulated election mode.  
2 For that testing, we used our senior partners Steve  
3 Freeman, Kate McGregor, and one employee.

4 We also did the volume testing mode. Volume  
5 testing mode is a test routine that exercises a large  
6 number of ballots and machines, in this case a hundred  
7 machines, with voters who are kind of a cross-section,  
8 very similar to what you might find in the general  
9 population of voters coming into precincts. Machines are  
10 exercised through actual casting of ballots over two full  
11 days of testing. And the anomalies in the user issues  
12 that come up during that testing are noted and then  
13 analyzed.

14 We also contracted for red team testing.

15 Stepping back, the volume testing was conducted  
16 primarily by Kate McGregor and one employee. In all these  
17 testing cases we were working with the Office of Voting  
18 System Technology Assessment and Secretary of State's  
19 Office and their staff is involved in the testing.

20 For the red team testing, we used our red team  
21 project manager Jacob Stauffer and he put together -- we  
22 used a project team working under the director of  
23 Dr. Sujeet Shenoi, who is a professor in computer science  
24 at the University of Tulsa and consults with us on each  
25 system.

1           For source code review, we used Atsec Information  
2 Security Corporation of Austin, Texas. They are a private  
3 sector computer security firm who specializes in testing,  
4 very, very sensitive -- security sensitive applications  
5 for the private sector.

6           Let's see.

7           All of the subcontractors and all employees  
8 assigned to all tasks were pre-approved by the Secretary  
9 of State's Office. We also allow a great deal of  
10 communication between Secretary of State staff and the  
11 subcontractor and our employees. All test plans, test  
12 routines, scope of work, everything pretty much is  
13 pre-approved by the Secretary of State's Office before we  
14 proceed.

15          Let's see.

16          I think I need to make it clear that we are not  
17 attorneys. We do not express legal opinions; we don't  
18 give legal advice. Our specialty is running the test  
19 plans and routines that the Secretary of State wishes to  
20 have run; give technical advice, that we're preserving the  
21 evidence from that work, and then writing the reports for  
22 our findings when we're done.

23          Okay.

24          The reports that we have presented, the four  
25 reports, I think have to speak for themselves. The

1 Secretary of State has posted those on the Web site. They  
2 are written by people who are very good experts in the  
3 field. They have taken a great deal of pain and effort to  
4 use as precise a language as possible. I am here  
5 basically to provide an introduction for those reports.  
6 Then I'm going to give you my general impressions of the  
7 system based on those reports.

8 I think if I say something that conflicts with the  
9 reports, I think you need to give precedence to the  
10 reports themselves. I mean, we could not bring everyone  
11 who was involved in doing this work, in creating the work,  
12 to this hearing. It would be cost prohibitive. But I  
13 think they have spoken very well for their opinions in the  
14 reports.

15 Okay. At a high level, the results are pretty  
16 much as follows. And I'm not going to talk about any one  
17 particular report. These are general impressions of the  
18 ES&S Unity 3.0.1.1 system.

19 The system consists of a collection of components  
20 which ES&S has gathered from different sources, and they  
21 are written in different languages.

22 Some of the election administrators here who  
23 watched the system evolve over time have seen ES&S bring  
24 new components in. The most recent addition to the ES&S  
25 suite of products is the AutoMARK system. That is a piece

1 which was developed by AutoMARK Information Systems, which  
2 ES&S now has recently bought.

3           This fact of the way they have assembled the  
4 system really makes the system highly subject to user  
5 error. It is at risk for data corruption errors going  
6 undetected. And it is vulnerable to attacks with fairly  
7 low skill level and unsophisticated attacks. That  
8 vulnerability exists, frankly, because these units have to  
9 talk to each other. There's not -- there's not a common  
10 information security framework pulling these pieces of the  
11 system together. It has allowed ES&S to develop some very  
12 nice functionalities, but it has not been without its  
13 costs.

14           Okay. System documentation for the system is  
15 poor. The California use procedures at this point need  
16 quite a bit of work. There was quite a bit of work that  
17 obviously was needed from the beginning of those  
18 procedures. There are additional items which are pointed  
19 out in detail in the report, showing additional items that  
20 need to be addressed.

21           The development documentation, really, in the  
22 source code report, has been found to be incomplete, to  
23 contain some inaccurate information, and the state of that  
24 documentation, frankly, made the analysis of the source  
25 code much more difficult than it should have been.

1           Some of the poll worker instructions in the poll  
2 worker manual for the AutoMARK, the instructions for the  
3 common errors found in the volume test, the ballot not  
4 recognized it lists out, that certainly a poll worker  
5 would not be capable of doing. And it does not list the  
6 steps that a poll worker really needs to take to resolve  
7 the ballot not recognized condition.

8           From the functional perspective overall, it is  
9 difficult for an administrative user of the system to  
10 effectively and efficiently define an error free election.  
11 We found in testing there were a number of paths that we  
12 went down, trying to define an election definition where  
13 you would only discover an error in the election  
14 definition at the point where you were doing a simulated  
15 logic and accuracy test. For an election administrator,  
16 that would mean after weeks of proofing, getting their  
17 elections definition correct, having ballots printed out,  
18 they would go and do an LNA test and find that they had an  
19 error in their election definition. That is a long way to  
20 go in the process to find those kinds of errors.

21           Most of the cause of that -- I mean, obviously  
22 part of the cause of that is complexity of the system and  
23 managing these different elements of the system that I  
24 mentioned earlier, but also a large contribution to that  
25 error was made by the lack of clear, concise documentation

1 on how the system is properly used and how it's properly  
2 used to define elections in California.

3 Now, that being said, I mean, there is an  
4 advantage to ES&S's approach to election definition. The  
5 election administrators always have the risk that your  
6 printer is going to make an error in printing ballots.  
7 And the short time frame of getting an election online,  
8 getting it conducted, you may not have time to recover  
9 from those print job errors.

10 This system, through its hardware programming  
11 manager module, is very flexible in allowing an election  
12 administrator, with or without ES&S's systems, to adapt to  
13 errors about printing and about media. It offers a lot of  
14 flexibility.

15 Your ballots come in with the oval positions not  
16 where they are supposed to be. You can -- if the ballots  
17 are otherwise legally sufficient, you could go into  
18 hardware programming manager and adjust those ballot  
19 positions. At the same time, if you're trying to code an  
20 election from scratch and do it error free, there are  
21 places where you can stray and cause those oval positions  
22 to be out of position.

23 Once again, though, this ties back, certainly, for  
24 elections to be conducted this year, to something that  
25 needs to be resolved through very good documentation.

1           In the volume testing of the system, a high number  
2 of errors occurred, basically 6 to 7 percent on the  
3 condition known as ballot not recognized. Ballot not  
4 recognized is simply when you put a blank ballot into the  
5 AutoMARK, the AutoMARK does not recognize it and gives it  
6 back to you. This is something that is easily handled.  
7 Most commonly, you can solve it just by putting the ballot  
8 back into the machine a second time. The poll worker  
9 instructions for handling that error really do not cover  
10 that. They go into a much more involved process of  
11 analysis in resolving that, including burning a new memory  
12 card for the device, which obviously would be outside the  
13 scope of duties of a poll worker.

14           There were a number of other errors which occurred  
15 with fair frequency, all of which could really be handled  
16 by properly trained poll workers. But the volume test  
17 results seem to indicate that the AutoMARK is very  
18 sensitive to maintenance issues. It is -- it requires a  
19 high level of training of poll workers. And of course in  
20 this case, it's going to require a revision to ES&S's poll  
21 worker manual as a first step prior to training.

22           In both the red team and source code reviews,  
23 there were a number of vulnerabilities which include hard  
24 coded passwords, the existence of data in plain text.  
25 There was at least one module where there were user IDs

1 required but no passwords required. Data and log records  
2 can fairly easily be altered without a lot of  
3 sophisticated knowledge on the part of the attacker. A  
4 number of the password encryption schemes are  
5 substantially weaker than they ideally should be.

6 One of the very significant weaknesses, which goes  
7 back to the ease of moving data, it is fairly easy to  
8 break the connection of a candidate between the audio  
9 ballot, the video ballot, and what is actually printed by  
10 the AutoMARK on the ballot.

11 So this means you can -- you can mount an attack  
12 where the voter who is relying strictly on the audio  
13 ballot and who is not capable of visually inspecting his  
14 own ballot, he could mark or think he is voting for  
15 candidate A, and actually the AutoMARK could be set up to  
16 vote for candidate B on the ballot.

17 And there is -- the other main finding from  
18 security review is there's really a lack of validated  
19 prescriptions for security on the system. During testing,  
20 ES&S presented a security template for their users which  
21 they were going to offer as a suggestion to users for how  
22 to secure the system. Unfortunately, this template had  
23 not actually been tested with the system, and that is one  
24 thing that's required. When you start locking down a  
25 system, you start securing it. One of the risks that you

1 run is the system, after it's secured, will no longer  
2 work. That type of analysis, we really did not find that  
3 there was evidence that ES&S had conducted that. And  
4 accordingly, we couldn't follow through and validate it on  
5 system function or security testing.

6 In terms of things that can be addressed by ES&S  
7 between now and June, there is very desperate need for  
8 revision to documentation -- documentation for procedures,  
9 documentation for procedures both in terms of California  
10 use procedures and operational procedures for the system.

11 You know, one of the attacks of the red team  
12 stepped through. They found that using a wired seal on  
13 the M100, you could -- if the seal was not tightly  
14 attached, you could bypass it. There's nothing in the  
15 procedures that make it clear that that seal must be very,  
16 very tightly attached. Little things like that.

17 The entire system needs to be gone through. I  
18 think it needs to be gone through, obviously, with the  
19 experience of the California jurisdictions that it's used  
20 to. I think their knowledge needs to come into that  
21 documentation.

22 And longer term, to solve a lot of the security  
23 weaknesses that the read team and source code team found,  
24 there really needs to be a overall redevelopment of the  
25 ES&S system and in a modern language that will give the

1 developers a lot more control over system security.

2 And that pretty well sums it up.

3 MODERATOR BRETSCHNEIDER: Are there questions from  
4 the panel?

5 Okay. Thank you very much.

6 And if you would like to proceed and make a few  
7 brief comments on Mr. Runyan's accessibility report, that  
8 would be great.

9 MR. CRAFT: Okay. And I will first apologize,  
10 because I've not prepared myself to -- I really have not  
11 read Mr. Runyan's report because I wasn't prepared for  
12 that. So I'm going to pretty much present it and read his  
13 summary of findings as we go here.

14 I think in his executive summary, he states that  
15 the system is generally accessible by a broad range of  
16 voters with disabilities. However, there are several  
17 concerns about its performance in certain areas for voters  
18 with certain combinations of disabilities.

19 In some cases, these accessibility or usability  
20 concerns could be partially or wholly mitigated. Some of  
21 these mitigations would not require new federal and state  
22 certification testing. Much mitigation would depend on  
23 poll worker assistance and customization.

24 And his conclusions, and if you will bear with me,  
25 please, he points out that every day there are products

1 that are more and more accessible entering the market,  
2 driven by technological improvements, market demand, and  
3 policy insistence. In such an environment, all voting  
4 systems should be able to accommodate an overwhelming  
5 majority of voters with disabilities.

6 We have concluded that the ES&S Unity 3.0.1.1  
7 Voting System does meet this criteria. It is  
8 substantially compliant when assessed against the  
9 requirements of the Help America Vote Act -- and as  
10 specified with the requirements of the Help America Vote  
11 Act and specified in the 2005 VVSG guidelines.

12 The system should be able to effectively serve the  
13 large range of voters with disabilities that should be  
14 accommodated according to HAVA requirements.

15 It appears to provide independent voting in all  
16 portions of the voting process that are central for  
17 assuring the privacy of the voter's ballot.

18 However, the system could be improved especially  
19 in the following areas of accessibility concerns:

20 Improved ballot privacy sleeves and handling  
21 procedures are needed; the force required for ballot  
22 extraction force is excessive; unnecessary ballot marking  
23 errors and high voter frustrations is caused by the lack  
24 of confirmation dialogues before cancelling or exiting the  
25 write-in function and before marking or returning the

1 ballot.

2 I should note here -- probably shouldn't  
3 cross-pollinate between reports, but in the volume test,  
4 we found no instances where there was an actual error in  
5 ballot marking which could not be properly read by the  
6 scanners. The only conditions where it could not be read  
7 was where it had been physically damaged and there were  
8 abundant error messages and reasons to understand that it  
9 was not going to being read.

10 Continuing on, he recommends improved speech  
11 synthesis and audio interface controls; switching modes  
12 for the controls in the summary and verification reviews  
13 placed heavy cognitive loads on audio-only voters; and  
14 more voters could make better use of the visual display if  
15 its magnification range and use of color was enhanced.

16 And this report has documented these accessibility  
17 concerns and offered options for short-term mitigations  
18 for upcoming elections. We've also conducted system  
19 design changes and other longer term mitigations possible  
20 for voting systems. It's essential to understand that the  
21 purely technological elements of a voting system do not  
22 solely determine its accessibility or its inaccessibility.  
23 The usability and accessibility of voting comprises far  
24 more than just the design of voting opinions. Election  
25 officials should analyze voting as an integrated system of

1 technologies and social practices.

2           For example, many voters with longstanding  
3 disabilities have become accustomed to absentee voting, or  
4 are not voting at all. Public service announcements that  
5 include a description of an accessible voting system would  
6 improve outreach to voters with disabilities and prepare  
7 them for a more positive experience at the polls.

8 Providing poll workers with more exposure to people with  
9 disabilities as well as more training in how to use the  
10 accessibility features of voting technologies would then  
11 open up the voting process to people with disabilities.  
12 Working with grassroots organizations, as some counties do  
13 already, can aid local election officials in their efforts  
14 to improve their inclusiveness and maintain efficiency at  
15 the same time.

16           This review focused primarily on the voter  
17 interface. There should be formal, rigorous analyses of  
18 the other interfaces in voting systems, especially the  
19 ballot design interface and the interfaces used to set up,  
20 test, and administer the individual machines as well as  
21 any collection and tallying interfaces.

22           The Elections Assistance Commission and the  
23 National Institute of Standards and Technology are in the  
24 process of developing accessibility and usability testing  
25 methodologies and certification practices. We can see

1 from our experience that this area needs a lot of  
2 development.

3           Clearly, it will be important to use a balance of  
4 expert heuristics and user training. As long as the  
5 design of voting technologies remains more art than  
6 science, objective testing methodologies will be  
7 supplemented with insight-based and analytical techniques.

8           And we're grateful to the California Secretary of  
9 State for giving us the opportunity to evaluate these  
10 systems, not only because this report may help the  
11 Secretary make near-term decisions about the systems  
12 themselves, but because we hope that some of the  
13 information within this report can be shared with and  
14 helpful to the larger community.

15           MODERATOR BRETSCHNEIDER: Thank you very much.

16           Now ES&S will have an opportunity to present any  
17 comments they would like to make. And we have here  
18 Mr. John Groh, who's the senior vice president of  
19 Government Affairs for ES&S, as well as Mr. Steven  
20 Pearson, who is vice president of Certification for ES&S.

21           Mr. Pearson will make the comments today and we  
22 have allotted 30 minutes. You may begin.

23           MR. PEARSON: Good morning. My name is Steve  
24 Pearson, and I am the vice president of Certification for  
25 Election Systems and Software.

1           As you know, we provide voting solutions in 14  
2 California counties. Over the years, we have worked  
3 closely with election officials throughout the state to  
4 support successful election events. ES&S understands that  
5 all elections are a process that consists of product,  
6 procedure, and people.

7           We certainly appreciate the opportunity to be here  
8 today as this process moves forward.

9           The United States Election Assistance Commission,  
10 the EAC, has recognized that all voting systems --  
11 paper-based, electronic, and mixed -- are vulnerable  
12 without thorough election management procedures in place.

13           In fact, one of the top priorities of the EAC this  
14 year was the development and publication of comprehensive  
15 election management guidelines, which was created to  
16 provide resources and information about effective election  
17 administration management procedures at the local level.  
18 After all, people touch every part of the process and  
19 every detail, no matter how small. Thus, having a secure,  
20 accurate, and accessible voting system is only part of the  
21 solution to ensure that all votes are covered accurately.

22           My company is also fully committed to working with  
23 election officials at the county, state, and federal  
24 levels in order to identify and implement enhancements to  
25 our voting systems.

1           That is why we welcome independent and fair  
2 testing of voting systems. Such testing, when conducted  
3 by experts in the election field, and that include the  
4 application of election best practices that are used and  
5 applied by local election administrators, helps to  
6 strengthen voting systems that are part of the overall  
7 election process.

8           We take very seriously the results of testing and  
9 use those findings to strengthen our own voting system  
10 equipment and performance.

11           We believe that the process that California  
12 Secretary of State Office has overseen to test our Unity  
13 3.0.1.1 Voting System, including the ES&S AutoMARK, the  
14 M650 Central Count Optical Scanner, and the M100 Precinct  
15 Level Scanner, has been comprehensive and fair.

16           While our technical team continues to carefully  
17 review the detailed findings of that testing, we can also  
18 tell you that many of the issues raised in the testing  
19 reports have been addressed in an updated version of the  
20 voting system, which is currently going through the EAC's  
21 new testing and certification process as we speak.

22           The modifications that we have made in the next  
23 release will effectively deal with several of the key  
24 points raised in the California review. While we continue  
25 to make improvements, the results of the California

1 testing taken as a whole demonstrate that our system, when  
2 used with established election procedures, is accessible  
3 and meets the needs of voters with disabilities --  
4 reliable, accurate, and secure.

5           The technology employed in this system has already  
6 been certified and successfully used in elections in 28  
7 other states. ES&S is currently incorporating all of the  
8 procedures and process suggestions included in  
9 California's certification of ES&S's Unity 3.0.1.1 version  
10 into an updated California Election Procedures Manual,  
11 which we will be releasing to the California Secretary of  
12 State's Office for approval and release to our California  
13 county customers.

14           Again, we appreciate the manner in which the  
15 Secretary of State's Office handled this testing, and we  
16 look forward to working with the state and local election  
17 officials to move forward with the process of supporting  
18 successful elections in California.

19           That concludes my comments.

20           MODERATOR BRETSCHNEIDER: Thank you very much.

21           Are there questions from the panel?

22           Okay.

23           Thank you very much.

24           MR. PEARSON: Thank you.

25           MODERATOR BRETSCHNEIDER: We will now move to the

1 public comment portion of our agenda. And as I mentioned  
2 earlier, if you would like to make a comment in this part  
3 of the agenda, please go to the back of the room and fill  
4 out a card so that you can be on the list.

5 We have five speakers who have signed up so far.

6 And I would like to ask Mr. Steve Weir, Contra  
7 Costa County Registrar of Voters, to come forward first.  
8 And then we'll have Lee Lundrigan from Stanislaus County.

9 MR. WEIR: Hi. Steve Weir, Registrar of Voters,  
10 Contra Costa County.

11 I don't want to come across as defensive, so  
12 please bear with me. I think if you look at these  
13 documents as a whole, they are actually a very  
14 constructive assessment of this voting system.

15 In looking at the accessibility review, you have  
16 to work through 58 pages of issues and concerns before you  
17 get to 59 and 60, which is the summary. And the summary  
18 in the two pages says that the system is a good system and  
19 it actually works.

20 As part of the accessibility review, there was a  
21 statement that I just want to focus on. And again, I  
22 don't want to be defensive. But let me put it into  
23 context. It said, "The poll worker interface  
24 unfortunately is outside the scope of this review," found  
25 on page 2.

1           And again, as we go through this testing, it's not  
2 a true test of these systems, because absent from these  
3 tests is the systems that we as registrars employ to make  
4 these systems actually work.

5           In another section, there was reference to a  
6 1.1 percent marking error rate in the AutoMARK, and then  
7 the text went on to say, but this is okay; you shouldn't  
8 worry about that. Well, I do worry about that.

9           And I think that as the previous speaker pointed  
10 out, under the volume test, the AutoMARK was shown to be a  
11 hundred percent accurate. And I would be concerned that  
12 there's a representation that there's a 1.1 percent  
13 marking error on the AutoMARK. I simply don't think  
14 that's true.

15           In the volume test report, I think that this is  
16 really a realistic portrayal of the system. And it does  
17 conclude that the AutoMARK system does work.

18           I would like to just take a minute and talk about  
19 accuracy because that's a super big deal for us. I  
20 conducted the 1 percent hand count for my county for the  
21 November 7, 2006, election. And we published a 30-page  
22 document that goes through and outlines the conclusions.  
23 And I did a report to my board. If you will bear with me,  
24 I'd like to just read through that. At the November 7,  
25 '06, general election as part of the State-mandated

1 1 percent hand count, which was done to check against the  
2 accuracy of the voting equipment, Contra Costa hand  
3 counted all or part of 34 precincts. That's 25 polling  
4 place precincts, two vote-by-mail precincts, and seven  
5 absentee voting styles. In all, 563 precinct contests  
6 were included in the random hand count. There were 8,495  
7 ballots hand counted either in whole or in part of as part  
8 of this process. Several groups worked on the hand count  
9 panels, each consisting of four people and lasting for two  
10 weeks.

11 In all, we looked at over 140,000 individual  
12 contests. All hand counts reconciled against the machine  
13 count. There were zero variances that could not be  
14 justified by the hand count. I think that practically  
15 speaking, we have, you know, an excellent system for  
16 accessibility and for accuracy.

17 Please don't put unrealistic expectations on this  
18 voting system. If there are going to be recommendations  
19 for change, please do so in a manner that doesn't impact  
20 that 90 days before an election. For us, that's starting  
21 to look like March 3rd, if you are looking to do something  
22 for the June 3 election.

23 I thank you for the opportunity.

24 THE COURT: Thank you very much.

25 Next we'll have Lee Lundrigan from Stanislaus

1 County, and after that, Jill LaVine from Sacramento  
2 County.

3 MS. LUNDRIGAN: Good morning to the Board and to  
4 the audience.

5 I'm Lee Lundrigan, Stanislaus County, Clerk  
6 Recorder, Registrar of Voters.

7 It's an honor and a pleasure to be here with the  
8 individuals that are in this room because I think we're  
9 all in here for the very same reason, which is to make  
10 voting the most accessible, accurate that is in the  
11 nation.

12 And I applaud the efforts of ES&S and the panel  
13 and the review team and the counties that are here, that  
14 are all here for the same exact reason, to make sure we  
15 have the very best that we can have.

16 I had the opportunity during my six years in the  
17 position of Elected County Clerk Recorder to look at  
18 three, and use three, different voting systems. And I  
19 have to admit that although we have used the ES&S system  
20 the longest, it -- and I therefore have had the most  
21 experience with it, that it has also been the best system  
22 that we've had an opportunity to use, that it has been one  
23 that has been complimented, cheered by our local voters,  
24 who like the fact that we use a paper ballot and a system  
25 that is simple, accurate, and easy for them to use.

1           But things change over time, and we all know and  
2 agree that improvements are made in voting systems and  
3 they have to be looked at and there's a value to our  
4 voters in keeping up with those improvements.

5           And we are here today, or I am here today  
6 specifically, basically to support the upgrade in the ES&S  
7 Unity System to the 3.0.1.1, which I want to say 30-11.  
8 It's just so much easier. But anyway, if I think that, I  
9 can remember all those numbers.

10           Basically what we are looking for is to be used by  
11 the numerous California counties, the opportunity to  
12 continuously improve systems. And I know that we're all  
13 here for that same purpose and reason, to make sure that  
14 we have the best thing and that this does fit that mold  
15 and having an opportunity to review the various documents,  
16 the testing, the individuals involved, the fact that  
17 upgraded training for poll workers is involved in this as  
18 well.

19           I think concluding on that, talking with my staff,  
20 talking with the citizens in our county, having an  
21 opportunity just to introduce my myself to you today, and  
22 to talk also with the ES&S staff on this, that we are most  
23 wholeheartedly in support of this, that we would like to  
24 see the continuous improvement made like this. We think  
25 we're definitely going in the right direction with it, and

1 we would support this and ask for your support as well.

2 And I would be glad to answer any questions.

3 DEPUTY SECRETARY OF STATE FINLEY: Well, thank you  
4 for those comments.

5 The question I have is, we are aware of some  
6 differences between the 2.4.3 system, that's currently in  
7 use, and this upgrade.

8 But could you tell us about any particular  
9 improvements that you see as, you know, making  
10 administration of your elections easier or dealing with  
11 any problems in the earlier version?

12 MS. LUNDRIGAN: You know, I would love to be able  
13 to go into the details of that. However, I brought my IT  
14 staff who would be more apt to talk to the details of the  
15 intricacies of this, which we know are fairly intense,  
16 having read through all of the review manuals. It would  
17 be probably better left to his statement, if you would  
18 like to hear from him. He's here. His name is Aaron  
19 Rosa.

20 Aaron, would you mind?

21 MR. ROSA: I don't think I want to make a public  
22 comment. I'm a little shy on the microphone.

23 MS. LUNDRIGAN: I apologize. He says he's shy at  
24 the microphone.

25 MODERATOR BRETSCHEIDER: Well, what we can

1 encourage you to do is to submit some comments  
2 electronically or in writing to us in the next few days.

3 MS. LUNDRIGAN: Sure.

4 DEPUTY SECRETARY OF STATE FINLEY: We would  
5 appreciate that. Thank you.

6 MODERATOR BRETSCHNEIDER: Thank you very much.

7 Next we will have Jill LaVine from Sacramento  
8 County. And after that, Dan Kysor with the California  
9 Council of the Blind.

10 MS. LaVINE: Good morning. My name is Jill  
11 LaVine. I'm the registrar of Sacramento County. And I  
12 want to thank you for this opportunity to speak before  
13 your board.

14 I have read the reports. And there are many good  
15 suggestions in them to help us improve our poll worker  
16 training, our procedures. And overall that's the goal,  
17 always improving.

18 Sacramento County was actually able to host the  
19 volume testing in our warehouse, and I found that to be  
20 very interesting to watch the level of detail that goes  
21 into all the testing and all the reports and all the  
22 people, cameras, and everything else that was going on.  
23 So it was great to be part of the testing process.

24 Part of the suggestions encouraged us to look at  
25 our accessibility of the AutoMARK. Reading through that

1 report, I found many good suggestions, and we have a very  
2 active Disability Advisory Committee here in Sacramento  
3 county. So I will continue to work with our DAC committee  
4 to improve that.

5           Because as Steve was saying that -- Steve Pearson  
6 was saying that people are part of the voting system and  
7 so that is very important to work there.

8           We have been using this first generation of  
9 AutoMARK software since our rollout in 2005. And it has  
10 been great. However, always room for improvement here.

11           And knowing that other states have already moved  
12 on to the next versions, that is -- it's almost like  
13 they've got it, we don't, and it solves that problem and  
14 we still have this issue. So that was very nice to know  
15 that hopefully we can move on and out of this first  
16 generation.

17           We have worked with the ES&S and made many of the  
18 suggestions have been taken. We are looking forward to  
19 our goal, of course, of serving the voters with accurate  
20 elections, and making sure that this system continues to  
21 provide all those safeguards.

22           We -- I do encourage, though, that in the past we  
23 had a 30-day public comment period. And knowing our very  
24 short turnaround time for the general election, I  
25 encourage a much shorter comment period so we can move

1 forward and proceed with -- you know, providing this is  
2 certified, we can move forward and actually install the  
3 software, get it tested and ready to roll out for the  
4 general election.

5 Thank you very much for you time.

6 MODERATOR BRETSCHNEIDER: Thank you.

7 Next is Dan Kysor.

8 DEPUTY SECRETARY OF STATE FINLEY: I just wanted  
9 to personally say a big thank you to you and the county  
10 for allowing the volume testing to go on at your facility.  
11 It's not just a big output of energy and care on your  
12 part, but I know it came as you were making election  
13 preparations. So we really did appreciate that.

14 MS. LaVINE: Thank you.

15 MODERATOR BRETSCHNEIDER: So we have Dan Kysor,  
16 California Council of the Blind. And after that, Brandon  
17 Tartaglia with Protection and Advocacy.

18 MR. KYSOR: Good morning, panel. My name is Dan  
19 Kysor, Governmental Affairs Director for the California  
20 Council of the Blind.

21 And I have personally used the ES&S, tested on it,  
22 and I think this is the first time I have totally agreed  
23 with Noel Runyan. And I think it was an excellent  
24 accessibility report.

25 And I think that California, the California

1 public, should be very proud of the Secretary of State's  
2 adoption of this sort of analysis of voting systems  
3 accessibility and security and all of that kind of stuff.  
4 Because for the first time that I can remember, I think  
5 we're starting to see -- we're starting to see the light  
6 at the end of the tunnel with some of this analysis. And  
7 it's too bad we couldn't have gone back 15 years and  
8 designed -- having the state design its own voting  
9 machine, but that's all water under the bridge. We didn't  
10 do that.

11           So what I would like to urge the Secretary of  
12 State to do, in light of this great report, I think it  
13 would really be a shame to take all these positive  
14 suggestions and then turn around and not certify ES&S,  
15 because it would be throwing the baby out with the bath  
16 water, because how can we -- how can we ever get forward  
17 momentum if we don't allow these companies to do what the  
18 state wants it to do. And the only way, really, to do it  
19 is to have a little catch-up between what the Feds want  
20 election systems to be and what the states wants the  
21 election systems to be.

22           And so in order to get some equilibrium here, I  
23 think the best course forward would be to certify this  
24 system. And I think that what the state needs to do --  
25 certainly what I've noticed is really try to catch up with

1 some of the federal standards and have a more standardized  
2 system whereby the Feds are asking one thing and the  
3 state's asking another thing, and next think you know, the  
4 popular trend is influencing certain things.

5 I think this needs to stop and I think we need to  
6 get back on track. And this is a great way to do it. So  
7 I urge the Secretary of State to please certify the ES&S  
8 system.

9 Thank you.

10 MODERATOR BRETSCHNEIDER: Thank you.

11 Other questions?

12 Thank you very much.

13 Brandon Tartaglia from Protection and Advocacy is  
14 next. And after that, Kim Alexander from the California  
15 Voter Foundation.

16 MR. TARTAGLIA: Good morning. Thank you. Brandon  
17 Tartaglia representing Protection and Advocacy.

18 Thank you for the opportunity to provide comment  
19 about the system. We appreciate all that Secretary Bowen  
20 has done to address the security concerns about  
21 California's voting systems. And we understand the  
22 importance of security for elections. However, PAI urges  
23 you not to overlook the issues of accessibility for people  
24 with disabilities.

25 Overall, PAI finds the AutoMARK Voter Assistance

1 Terminal to be reasonably easy to use and the various  
2 accessibility features to be useful to people with certain  
3 disabilities. Some of the advantages include the hybrid  
4 nature of the system that provides the touch screen  
5 interface of a DRA system, which addresses some of the  
6 accessibility issues with a pure paper-based optical scan  
7 system; the touch screen interface can be used separately  
8 or in conjunction with the audio interface, which itself  
9 can be speed and play-back controlled by the voter; the  
10 voter can choose between several different methods to  
11 operate the system and make ballot choices, including foot  
12 pedal control, Braille keypad, and puff and sip; we also  
13 like the ability to change the font size, contrast on the  
14 touch screen display, as well as the angle of the screen.

15 There are, however, the following concerns: More  
16 needs to be done to improve access for people with  
17 physical mobility and dexterity, grip strength, and touch  
18 sensitivity disabilities, especially relating to  
19 manipulating and inserting the ballot into the voting  
20 system. The touch force required to use the touch screen  
21 interface is excessive, which can be a problem for people  
22 with manual dexterity and/or grip strength disabilities.

23 Also, the touch pad is attached to the voting  
24 system and can't be moved into a person's lap if they have  
25 reach or dexterity disabilities, which was a particular

1 problem for my boss.

2 Privacy is difficult for a person sitting in front  
3 of the system, as anyone passing behind the person will  
4 have a full view of the screen.

5 Additionally, the question remains how these  
6 system can be used in instances where the voter needs to  
7 vote curbside. It seems particularly unwieldy to carry it  
8 to a person with a disability if the polling location is  
9 inaccessible.

10 The system still uses a paper ballot and the issue  
11 is not simply resolved by the poll worker providing the  
12 voter with paper ballot curbside, since the voter's  
13 privacy is compromised, and having to rely on the poll  
14 worker to deliver the ballot back inside and into the  
15 tabulation system without looking at the marked ballot.

16 Furthermore, the curbside voter doesn't have the  
17 same opportunity to use the voter verification process the  
18 system provides to other voters.

19 So we urge you to give thoughtful consideration to  
20 the accessibility issues that we've raised while  
21 recertifying the system. PAI will continue to offer our  
22 assistance any way that we can.

23 Thank you.

24 MODERATOR BRETSCHNEIDER: Thank you.

25 Kim Alexander from California Voter Foundation is

1 next. And after that, Christina Lokke with California  
2 Common Cause.

3 MS. ALEXANDER: Good morning. Kim Alexander with  
4 the California Voter Foundation. I would just like to  
5 make a few quick remarks.

6 First, I congratulate the Secretary of State's  
7 Office for conducting this thorough review. We're very  
8 pleased to see that all these different kinds of testing  
9 mechanisms have been standardized in California, and that  
10 it wasn't -- that the top-to-bottom review was not just a  
11 one-time exercise, but it appears that the process that  
12 you undertook will be the process that will be undertaken  
13 for all voting systems going forward. And that's  
14 extremely encouraging.

15 The volume testing exercise is something that the  
16 previous Secretary of State Bruce McPherson implemented,  
17 and we're very happy to see that continue. And we're also  
18 extremely pleased to see the red team review and the  
19 source code review and the accessibility review. All  
20 these reviews are crucial for all of our voting systems.  
21 And California voters are being well served by having  
22 Secretary of State administration that is conducting these  
23 kinds of thorough reviews of these voting systems.

24 I would like to suggest that since it's clear that  
25 the documentation for the system needs to be thoroughly

1 revised, both the use procedures and the operating  
2 procedures, that if the Secretary of State does provide  
3 certification for the system, it ought to be made on the  
4 condition that the draft of these documentations be  
5 provided to your agency by a date certain.

6 My experience, monitoring the certification of  
7 voting systems in the past, has been that it's often  
8 concluded that the procedures are inadequate for whatever  
9 system is in question and that that's often left to the  
10 last minute. So you have the ability to ensure that those  
11 procedures are developed in a timely manner that will  
12 ensure that the election officials in the 14 counties that  
13 are using ES&S system will get those procedures in time to  
14 incorporate them into their training process for the June  
15 primary, which as we all know is -- that process will get  
16 underway soon.

17 My own experience with the AutoMARK has been  
18 unfortunately not so great. I did make a point of voting  
19 on it myself, as a sighted voter, twice in Sacramento  
20 County. The first time I voted on the AutoMARK, I crashed  
21 the machine, which was a very disappointing experience.  
22 And the second time, only one side of my ballot was  
23 marked, and the other side had to be filled in by hand, by  
24 me. So these were not positive experiences for myself.  
25 But I realize that all of our accessible voting devices in

1 California have problems and need serious work to ensure  
2 that they are accessible and secure.

3 And overall, I like the AutoMARK and the idea of a  
4 ballot marking device. It's something that I think most  
5 people working on the voting integrity issues realizes is  
6 a great way to combine the use of technology with the  
7 security of a paper ballot.

8 I find the findings in the report alarming, and  
9 I'm worried about the security risks that were identified  
10 by some of those reports that were presented. They were  
11 in place that we have been many times before where the  
12 election is around the corner and we have discovered new  
13 security problems and there's this pressure to certify.

14 So we hope that you will ensure that the security  
15 issues that were raised are addressed before the AutoMARK  
16 is used again in another California election.

17 Thank you.

18 MODERATOR BRETSCHNEIDER: Thank you. Are there  
19 questions?

20 Our last speaker under public comment is Christina  
21 Lokke with California Common Cause.

22 MS. LOKKE: I'm Christina Lokke, California Common  
23 Cause. I'm a policy advocate.

24 And I want to echo the majority of the comments  
25 today. We appreciate all the work the Secretary of State

1 has done to ensure that California has secure voting  
2 systems. However, we also think it is important to ensure  
3 that accessibility and language needs are not overlooked,  
4 and we urge the Secretary to continue to work with vendors  
5 for solutions to accessibility, security, and language  
6 needs.

7 And therefore, we urge the Secretary to certify  
8 these machines while also taking these concerns into  
9 account and continuing to work with ES&S.

10 Thank you.

11 MODERATOR BRETSCHNEIDER: Thank you very much.

12 We have now completed our agenda, and I would like  
13 to thank our panelists and presenters for participating in  
14 today's hearing. And thank you to all of you in the  
15 audience and in the public for listening and being part of  
16 the process today.

17 As I mentioned earlier, anyone who wishes to  
18 submit written testimony can do so by submitting a hard  
19 copy to the Secretary of State's Office, or by e-mailing  
20 an electronic copy to [votingsystems@sos.ca.gov](mailto:votingsystems@sos.ca.gov).

21 This hearing is now adjourned.

22 (The Secretary of State Public Hearing  
23 adjourned at 10:58 a.m.)

24

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## 1 CERTIFICATE OF REPORTER

2 I, KATHRYN S. SWANK, a Certified Shorthand Reporter  
3 of the State of California, do hereby certify:

4 That I am a disinterested person herein; that the  
5 foregoing public hearing for the California Secretary of  
6 State's Office was reported in shorthand by me, Kathryn S.  
7 Swank, a Certified Shorthand Reporter of the State of  
8 California, and thereafter transcribed into typewriting.

9 I further certify that I am not of counsel or  
10 attorney for any of the parties to said hearing nor in any  
11 way interested in the outcome of said hearing.

12 IN WITNESS WHEREOF, I have hereunto set my hand this  
13 25th day of February, 2008.

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KATHRYN S. SWANK, CSR

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