

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25

STATE OF NEW JERSEY  
OFFICE OF ATTORNEY GENERAL  
DIVISION OF ELECTIONS  
PUBLIC HEARING

-----X

IN RE:  
NEW JERSEY STATE VOTING  
VOTING MACHINE EXAMINATION  
COMMITTEE

-----X

Transcript of proceedings taken at the  
New Jersey National Guard Armory, 151 Eggerts  
Crossing Road, Lawrenceville, New Jersey, on  
Wednesday, July 25, 2007, commencing at  
9:00 a.m.

ROSENBERG & ASSOCIATES, INC.  
Certified Shorthand Reporters & Videographers  
425 Eagle Rock Avenue - Suite 201  
Roseland, New Jersey 07068  
(973) 228 - 9100  
[www.rosenbergandassociates.com](http://www.rosenbergandassociates.com)

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25

VOTING MACHINE EXAMINATION COMMITTEE MEMBERS:

- Richard Woodbridge, Esq., Chairman
- John Fleming
- Daryl Mahoney

	I N D E X	
	AGENDA	PAGE
1		
2		
3	Opening Comment	5
4	Chairman Woodbridge	
5	Sequoia Voting Systems Comment	11
6	Edwin B. Smith, III	
7	ADA Administrator Comment	30
8	David Millstein	
9	Sequoia AVC Edge Machine	34
10	Demonstration	
11	Edwin B. Smith, III	
12	Andy Wynham	
13	NJIT Comments	40
14	Mitchell Darer	
15	Aridaman (Ari) Jain, Ph.D.	
16	Yun Q. Shi, Ph.D.	
17	Sequoia AVC Edge Machine	56
18	Demonstration	
19	Edwin B. Smith, III	
20	Andy Wynham	
21	Examination of Criteria for VVPR	61
22	for DRE	
23		
24		
25		

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25

I N D E X

AGENDA	PAGE
Public Comment	165
Flavio Komuves, Esq.	
Professor Venetis, Esq.	
Adolph A. Romei, Esq.	
Arthur Chagaris, Esq.	
Close of Public Hearing	226
Chairman Woodbridge	

1                   CHAIRMAN WOODBRIDGE:    Good  
2 morning.

3                   Thank you for coming.    If you have  
4 a sense of déjà vu, it is because the gremlins  
5 in the audio system are back at work again.

6                   I thank you for showing up today  
7 to comment.    This meeting of the Title 19  
8 meeting is on the record.    We have a court  
9 reporter present.

10                  The purpose of today's hearing is  
11 to examine the Sequoia Edge VVPRS; that's is  
12 voter-verified voter paper record system  
13 ballot machine.

14                  We had a fairly lengthy  
15 introduction yesterday with the same vendor  
16 with a different machine.    I think that's  
17 probably superfluous today so maybe we can  
18 jump into some of the specifics.

19                  My name is Dick Woodbridge.    I'm  
20 the chair of this committee for today.

21                  Title 19 requires that a  
22 committee, including one patent attorney,  
23 that's myself, and two other individuals take  
24 a look at any new type of voting machine  
25 before it is certified for use by the State of

1 New Jersey.

2           At the completion of these  
3 hearings, this committee will put together a  
4 report and send it to the Attorney General  
5 with our recommendations. This committee does  
6 not, I repeat, does not certify voting  
7 equipment. All it really does is go through  
8 the criteria that we have been given to  
9 determine if the paper-trail devices, in fact,  
10 meet the criteria set forth by the State.

11           This is only the second hearing  
12 we've ever had on a paper-trail machine. The  
13 criteria are fairly new. They're also quite  
14 lengthy and the procedure of this committee  
15 for as long as I've been on it, which goes  
16 back to 1982, but not continuously, is to go  
17 through the steps or procedures piece by piece  
18 and try to determine, as best we can, what  
19 parts of the vendor's machine do or do not  
20 meet that criteria.

21           We are very, very fortunate to  
22 have with us at this hearing some members of  
23 the faculty from NJIT, who have looked at the  
24 machine and during the course of this hearing  
25 will provide us with their input and their

1 analysis and we're extremely grateful for your  
2 coming here and assisting us with this  
3 process.

4                   On my left is John Fleming, who is  
5 a Management Information Specialist with the  
6 Department of Law and Public Safety. And on  
7 my right, your left is Daryl Mahoney, who is  
8 Assistant Director of the Bergen County  
9 Election Voting Machine Division.

10                   Since we only have a few people in  
11 the audience, I'm going to ask the audience if  
12 they wouldn't mind introducing themselves so  
13 I'm going to start with Flavio on the left and  
14 if you wouldn't mind telling us who are you  
15 and what you're here for.

16                   MR. KOMUVES: Flavio Komuves,  
17 Deputy Public Advocate here to attend the  
18 proceedings and at the appropriate time ask  
19 some questions.

20                   CHAIRMAN WOODBRIDGE: Glad to have  
21 you here.

22                   MR. LYMAN (ph): I'm  
23 Rick Lyman (ph), I just chose to sit down.

24                   CHAIRMAN WOODBRIDGE: That's quite  
25 okay, Dick.

1                   PROFESSOR VENETIS: I'm Penny  
2 Venetis. I'm a law professor at Rutgers Law  
3 School. I'm also lead counsel in the lawsuit,  
4 Gusciora v. Corzine. I'm here to observe and  
5 to take public comments.

6                   CHAIRMAN WOODBRIDGE: Good to have  
7 you back, too.

8                   Ma'am.

9                   MS. MATHESON (ph): Sandy Matheson  
10 (ph) with the League of Women Voters of  
11 New Jersey and I'm here to observe.

12                   CHAIRMAN WOODBRIDGE: Good to have  
13 you here, too.

14                   Okay.

15                   Without further adieu, what we'll  
16 do is proceed through the program.

17                   The program has the following  
18 format.

19                   We have specifically a vendor make  
20 some opening statements; and, also, do a brief  
21 demonstration/description of the system.

22                   Yesterday, we had NJIT come on  
23 next. We're going to go outside of that today  
24 and if David Millstein is here -- is Mr.  
25 Millstein here?



1 MR. MILLSTEIN: Yes, I am.

2 CHAIRMAN WOODBRIDGE: Okay.

3 Thanks.

4 We'll probably put him on right  
5 after the vendor because I know he has a tight  
6 schedule and then we will have NJIT make its  
7 presentation. I understand it will be a  
8 little bit more abbreviated than yesterday  
9 just because we're covering some of the same  
10 territory.

11 At that point, I will lead the  
12 Committee in asking and reviewing the various  
13 different criteria with the vendor to see if  
14 it meets the criteria.

15 At the end of that point, we will  
16 have public input, which we will look forward  
17 to.

18 Again just a few ground rules.

19 Just to repeat myself, the  
20 Committee does not decide what machines are or  
21 are not acceptable. We, basically, look at  
22 the criteria to determine if it meets the  
23 standards that the State has set.

24 In fairness to us and the vendors  
25 and to keep the process moving smoothly, we do

1 request that all questions be held until the  
2 end of the Committee's opportunity to do its  
3 part. And then, we will be delighted to take  
4 any public end input. We had some excellent  
5 public input yesterday.

6 Any questions during that process  
7 and during the hearing should be addressed to  
8 the Chair; that's me.

9 We generally do not make a  
10 decision at the end of the hearing. There is  
11 an awful lot of information to digest. There  
12 is some more information with regard to  
13 yesterday's hearing that we have not received  
14 and probably won't receive until tomorrow so  
15 it is not an instant gratification exercise.

16 On the other side of the coin, the  
17 Attorney General's office, the State of New  
18 Jersey and this Committee are under a  
19 significant amount of pressure to review these  
20 machines as expeditiously as possible so that  
21 the State might have those machines ready by  
22 February of 2008.

23 The two most important things I  
24 want to bring to your attention are:

25 No. 1, there is no smoking in

1 this building. There is also no smoking in  
2 the front of the building, though, I am told,  
3 you can smoke in the back of the building, if  
4 you choose.

5                   And No. 2, most importantly, there  
6 is an orange box on my left, your right. For  
7 those of you who aren't familiar with that  
8 color, it's a Dunkin' Donuts box. There is  
9 coffee next to it so for those of you who  
10 should nod off during this hearing or perhaps  
11 feel the urge to do so, we do have some  
12 stimulants in the corner to get you through  
13 the hearing. If the Chair nods off, I'm going  
14 to ask Daryl here to wake me up.

15                   Without further adieu, I am going  
16 to ask Sequoia if they're ready to present  
17 their equipment and make an opening statement.  
18 After that point, we're going to ask  
19 Mr. Millstein to make his comments.

20                   Mr. Smith.

21                   MR. SMITH: Thank you,  
22 Mr. Chairman.

23                   Mr. Chairman, members of the  
24 Committee, representatives of the Attorney  
25 General's office, the State of New Jersey and,

1 of course, the New Jersey voters, good  
2 morning.

3 My name is Ed Smith. I'm Vice  
4 President of Compliance Quality and  
5 Certification at Sequoia Voting Systems. I'm  
6 joined today by Sandy Green, Director of  
7 Certifications, Joe McIntyre, our Senior  
8 Project Manager and Howard Cramer,  
9 Vice President of Sales for Sequoia. And  
10 there are some other members of the Sequoia  
11 team, as well.

12 We're pleased to be here today to  
13 address your questions and concerns regarding  
14 the Edge and its use in the State of  
15 New Jersey.

16 Once again, as I stated yesterday,  
17 we commend the State of New Jersey for  
18 undertaking this process.

19 It is certainly a robust process,  
20 the testing by NJIT was rigorous and thorough  
21 and I think their efforts and the combined  
22 efforts of this group will go a long way to  
23 ensuring an improved election experience for  
24 New Jersey voters.

25 We're very pleased that the NJIT

1 report confirms and agrees that the Edge  
2 voting machine performed accurately and  
3 securely in its test and, indeed, does perform  
4 accurately and securely and that the  
5 voter-verified paper audit trail, VVPAT or  
6 VVPRS performed effectively.

7 Voter verifiable accuracy and  
8 auditability are hallmarks of successful  
9 elections. We are pleased the report  
10 acknowledges that the Edge performed well in  
11 those categories.

12 Successful elections are also the  
13 result of trained personnel and established  
14 and practiced procedures, not just the  
15 equipment involved.

16 Of the noted exceptions described  
17 in the NJIT report, many of them are  
18 procedural or process-oriented in nature.

19 In this respect, these exceptions  
20 are easily eliminated or mitigated through  
21 proper training or procedures at the  
22 jurisdictions.

23 Some of the so-called exceptions,  
24 also, in our opinion are matters of opinion  
25 and not covered under the regulations.

1           A few of the NJIT recommendations  
2 are, however, equipment oriented.

3           For those exceptions, Sequoia has  
4 already developed solutions that will resolve  
5 the issues.

6           We must be careful, as we proceed  
7 here today, and from yesterday's hearings, as  
8 well, not to lose sight of the forest for the  
9 trees and not to look strictly to the  
10 line-by-line regulations, but to the fact that  
11 these machines take voter intent in a very  
12 easy, very accessible manner to the voter and  
13 in the end produce a printed slip of paper  
14 that the voter can verify that goes in a bag  
15 and under the New Jersey statute becomes the  
16 official record; that's the real crux of the  
17 matter here is voter verifiable paper audit  
18 trail. And we do indeed provide that to the  
19 New Jersey voters with these systems.

20           We submit that, in fact, the  
21 equipment conforms to the regulations for  
22 VVPRS and should be certified and our efforts  
23 to make further equipment improvements based  
24 on the noted exceptions serve to further our  
25 equipment for the State of New Jersey and for

1 our other customers.

2 New Jersey has a long history of  
3 administering fast and accurate and fraud-free  
4 elections on equipment made by Sequoia Voting  
5 Systems.

6 The Edge that we see today and  
7 that is the subject of this hearing, has been  
8 in use in Salem County since 2000 with  
9 tremendous success. And as we noted  
10 yesterday, the Advantage has been in use in  
11 many other New Jersey counties since as early  
12 as 1994.

13 We look forward to continuing to  
14 provide New Jersey with high-quality equipment  
15 in 2008 and beyond.

16 Thank you.

17 CHAIRMAN WOODBRIDGE: Thank you,  
18 Mr. Smith.

19 Now, are you going to give us a  
20 demonstration of the machine?

21 MR. SMITH: Yes, sir. I will.

22 Members of the Board, we have here  
23 five Edge 1s with VVPAT or VVPRS machines and  
24 we'll pull this one out for demonstration.

25 Once the voter has activated the

1 machine, for this particular machine and this  
2 is true, I believe, the State of New Jersey  
3 has a screen that allows you to select between  
4 English and Spanish, so I will tap the English  
5 button and, of course, I get this ballot.

6 And then, of course, you can vote  
7 on the test screen and make your selections so  
8 I will just do it at random here.

9 And this is the test ballot used  
10 at NJIT so it has some rather interesting  
11 local questions like A, B, C, D, E, F, G.

12 And then at the end, you get an  
13 electronic summary screen, which is different  
14 than the Advantage we discussed yesterday.

15 The Advantage being full face, you  
16 see all of your selections at one time, but,  
17 of course, on the Edge, it being a standard  
18 DRE, you have pages of the ballot, thus a very  
19 short ballot and thus you have an electronic  
20 summary screen.

21 You will note that since I did not  
22 make a selection for a freeholder office, that  
23 selection is noted in red with no selections  
24 made, so it gives the voter some prompts that  
25 they did not make all the selections they



1 could have made. And in the prompt, says,  
2 Touch the office or issue to make a change.  
3 So we can, in fact, go back and it takes you  
4 back to the contest that you wish to change.

5 If you touch the choice you  
6 initially made, it disappears and you can  
7 makes a second choice; or, if for some reason,  
8 no, I liked the original choice, you can  
9 certainly go back to that.

10 And then, once again, scroll back  
11 to the electronic summary screen, once you get  
12 to that point, the next button takes you to a  
13 screen with instructions that state you have  
14 not made all the choices you're entitled to, I  
15 left one race unvoted, and then touch here to  
16 print and review a paper record of your  
17 ballot.

18 And so by touching that, the  
19 VVPRS, and you might need to come over here  
20 because, of course, there are privacy  
21 curtains, so unless you're in the booth, you  
22 can't see the paper tape, but you can see it's  
23 scrolling up from the bottom, providing a  
24 record of how I voted on the reel-to-reel  
25 paper tape. You'll notice it has the election

1 definition dates and this machine and then at  
2 the bottom, it says, "end" to make it very  
3 clear to the voter and to make it clear to the  
4 jurisdiction where the tape came from and to  
5 the voter that with this selection, this is,  
6 in fact, the end.

7           If I wish to make changes, I have  
8 a "make changes" button, that will take me  
9 back to the ballot so that I can redo my  
10 selections and, of course under New Jersey law  
11 that counts as one opportunity of the three by  
12 state statute that you have.

13           Other than that, I can "cast  
14 ballot," and the machine makes a nice happy  
15 tune to let you know you have recorded your  
16 vote. It also a green background sign that  
17 says, Vote recorded, thank you. And the  
18 jurisdiction can configure that wording to  
19 suit both tradition and local practices.

20           We see the barcode, the serial  
21 number of the machine and then it scrolls up  
22 out of the way and goes back to a "waiting for  
23 next voter status."

24           CHAIRMAN WOODBRIDGE: What if you  
25 want to spoil a ballot?

1           Let's say you would like to vote  
2 and you don't like your choices on the  
3 printout and you should have three chances to  
4 vote, if you could demonstrate that aspect.

5           MR. SMITH: If you wish to spoil a  
6 ballot -- let me revote.

7           I'll leave a couple of contests  
8 unvoted. So we're here at the electronic  
9 summary screen. You can see I left  
10 "additional contests unvoted at this time."  
11 It says, "Touch here to review and print a  
12 paper record of your ballot."

13           And so the VVPAT frame comes and  
14 the printout appears in the window.

15           And in this case, instead of "cast  
16 ballots," I'm going to say "make changes," so  
17 instead of essentially spoiling a ballot, you  
18 can see the large word "voided" and that there  
19 is no barcode at the bottom of the VVPAT.

20           I'm back to the electronic summary  
21 screen so it gives me a quick summary of how I  
22 voted. I can touch the office that I wish to  
23 change, I can make that change as I  
24 demonstrated earlier and then the process  
25 repeats.

1                   So here we have the second VVPAT  
2 frame. And may I draw your attention to the  
3 tape where it does say, Official General  
4 Election, in this case, Test 2, Essex County,  
5 November 4, 2008 and Edge so that there is a  
6 full opportunity for the jurisdiction to place  
7 identifying election information at the top of  
8 the tape.

9                   CHAIRMAN WOODBRIDGE: So unlike  
10 yesterday where we didn't have the primary or  
11 general election identifier in the ballot,  
12 this one does have that on the paper ballot?

13                   MR. SMITH: The jurisdiction can  
14 place whatever they want.

15                   So once again, I'm going to make  
16 changes, so this would be the second time.

17                   You'll notice the extra warning,  
18 "This will be your final chance to make  
19 changes to your ballot," plus "return to  
20 ballot to proceed" so it gives you the extra  
21 warning that is required when you have a  
22 ballot spoilage number, as we do in  
23 New Jersey.

24                   So I will go back and I will vote  
25 one of the contests that I left open earlier.

1 I will see if I can vote all my contests. I  
2 still have one open. It's a vote for two, so  
3 let me vote for a second candidate.

4 And now, you can see that the --  
5 there is no red on the electronic summary  
6 screen. I have filled out all the contests  
7 fully so I have no more opportunities to vote.  
8 You also see the lack of an extra warning that  
9 you have left contests unvoted because, I have  
10 indeed voted all of the contests available to  
11 me.

12 And so I will go to "next," and  
13 now the warning message changes to "touch here  
14 to cast your ballot" because it's the third  
15 time, you're done under state law.

16 I want you to note, unlike the  
17 Advantage, which gives the voter very little  
18 time, as we discussed yesterday, on the third  
19 try to read their ballot, here, I'm seeing the  
20 first line of how I voted coming up. Notice  
21 the pause. And I've counted out 12 seconds.  
22 And there is the last one. And just, in my  
23 head, I counted off 18 seconds, enough time to  
24 review and verify the third time, although it  
25 does not allow them to make changes because,

1 of course, to make changes violates the  
2 statute.

3 So unlike the Advantage, which  
4 does work very quickly and the printer is  
5 generally a faster mechanism, here, there is  
6 certainly adequate time for the voter to take  
7 a look at their third receipt, although under  
8 state law they can't make a change to it.

9 CHAIRMAN WOODBRIDGE: Can you  
10 explain the activation of the machine?

11 MR. SMITH: The voter will receive  
12 a card activating credentials by the  
13 poll workers and they will insert that card  
14 into the bright yellow spot.

15 At that point, you will get the  
16 screen that I showed earlier that had English  
17 and Spanish, and it will direct the Spanish  
18 speaking voter to hit that button.

19 CHAIRMAN WOODBRIDGE: Is that card  
20 recycled?

21 MR. SMITH: Yes, sir; that card is  
22 recycled.

23 CHAIRMAN WOODBRIDGE: So like a  
24 hundred voters could use the same card.

25 MR. SMITH: More than that, but

1 yes, sir.

2 CHAIRMAN WOODBRIDGE: Is there any  
3 chance of mal-ware, virus or something  
4 contaminating the machine through the card.

5 MR. SMITH: We have additional  
6 protection and check zones to avoid that. I'm  
7 familiar with the reports that you're thinking  
8 of there and those cards did not have those  
9 protections.

10 CHAIRMAN WOODBRIDGE: Is the  
11 machine activated initially through the card  
12 slot in the front of the machine?

13 When the poll worker comes in, in  
14 the morning, how do they set up the machine?

15 MR. SMITH: It has a power switch  
16 and you turn it on and it will boot up to a  
17 screen that -- it won't be "awaiting for next  
18 voter," it will be a maintenance screen and  
19 then they have to perform other actions to get  
20 it to the point where it is ready for voters.

21 CHAIRMAN WOODBRIDGE: And what  
22 actions are those?

23 MR. SMITH: It varies a little bit  
24 because of how you have it configured, but  
25 essentially there is a button on the machine

1 that tells the poll worker that says,  
2 Stop/Start Voting. Typically, there is a  
3 button on the right that says, Start Voting.

4 CHAIRMAN WOODBRIDGE: So other  
5 than the power-up card, they don't have to put  
6 another card in?

7 MR. SMITH: No, sir.

8 CHAIRMAN WOODBRIDGE: How do you  
9 close the machine?

10 MR. SMITH: There is a close poll  
11 knob in the back. And I failed to mention  
12 earlier, but the Polls Open/Polls Closed knob  
13 is in the back.

14 The Polls Open/Polls Closed knob  
15 is protected by this door. You can put a lock  
16 or a tamper-evident seal there. And you have,  
17 also, Power On/Off. So you will power on the  
18 machine.

19 Jurisdictional particulars  
20 normally call for the machine to leave the  
21 elections warehouse with this seal intact for  
22 the Polls Open/Polls Close knob and they'll  
23 break the seal to open up the knob. Some  
24 jurisdictions will keep an extra seal over  
25 here, which is a convenient way to deal with



1 that, open the polls, close it and reseal it,  
2 once again, logging the number of the seal and  
3 the time and date in which it was  
4 accomplished.

5 CHAIRMAN WOODBRIDGE: When you're  
6 finished with that, is there some way to  
7 electronically get the tally out of the  
8 machine?

9 MR. SMITH: Yes, you can. You  
10 can, once again, break the seal, close polls  
11 at the end of the day, which is what we  
12 recommend because that locks out and disallows  
13 any additional voting to that results  
14 cartridge.

15 There is a results cartridge in  
16 the machine. You can also program and  
17 configure the VVPAT to print totals just as  
18 you can program to print zero totals at the  
19 beginning.

20 CHAIRMAN WOODBRIDGE: What is the  
21 capacity of the roll?

22 MR. SMITH: The largest roll we  
23 can place on here is 400 feet.

24 So just like the fan-fold pack in  
25 the Advantage, it depends on the length of the

1 ballot. If it is one window, the linkage is  
2 about a foot and then there is a second foot  
3 link that is used to obscure the prior voter's  
4 choices to the next voter who comes in.

5 CHAIRMAN WOODBRIDGE: And if I  
6 recall yesterday, for the Advantage, you had a  
7 400 or 500 ballot cartridge.

8 MR. SMITH: It was a fan-fold pack  
9 of paper, yes.

10 CHAIRMAN WOODBRIDGE: How does  
11 that compare in length to this?

12 MR. SMITH: It's not an apples to  
13 apples comparison because this is a  
14 reel-to-reel and that is a fan-fold device.

15 So with the fan-fold paper, it's  
16 an integer and you take down one entire  
17 fan-fold; whereas, this, it's incremental,  
18 it's down to how long it takes the printer to  
19 actually print so it's not a good comparison.

20 CHAIRMAN WOODBRIDGE: One last  
21 question.

22 Out of curiosity, is there any  
23 reason why this machine doesn't have the  
24 fan-fold, as opposed to reel-to-reel?

25 MR. SMITH: Simply because it was

1 developed with what we call the VeriVote.

2 COMMITTEEMAN MAHONEY: The zero  
3 proof report, I was just asking where is it on  
4 the machine, just to prove that there are no  
5 votes on the machine in the morning during  
6 opening?

7 MR. SMITH: You can configure the  
8 VVPRS to print that.

9 COMMITTEEMAN MAHONEY: So, in  
10 other words, if you change the paper roll  
11 during the day, the zero-proof report will  
12 only be on that roll, it will not be on the  
13 next roll that you put in?

14 MR. SMITH: That's correct because  
15 that second roll that you would put in the  
16 machine or the second printer if you choose to  
17 change the entire printer will have -- it  
18 won't be zero by then, there will be votes on  
19 the machine.

20 COMMITTEEMAN MAHONEY: Thank you.

21 CHAIRMAN WOODBRIDGE: Just one  
22 other question, the public counters and  
23 private counters, how do you deal with that  
24 issue on the machine?

25 MR. SMITH: They're in the front.

1           We're looking at the voter counts  
2           in the back of the machine and both the  
3           machine counts and the voter counts are shown  
4           in the back.

5                   CHAIRMAN WOODBRIDGE: I guess my  
6           concern is that, as a voter, let's say, I came  
7           in, I signed in the signing book and I was  
8           No. 9 and like they do in Princeton Township,  
9           they give you a little slip of paper, which  
10          says, No. 9. And then you go in the voting  
11          booth and you use a -- you know, if you're  
12          familiar with it, you take a look at your  
13          ballot and you see up in the upper-right hand  
14          corner, the lever machine will say No. 9.

15                   So I think part of the public  
16          counter is so that the public can see and  
17          verify that they are, in fact, in synch with  
18          the sign-in process.

19                   My recollection is that the  
20          statute used to specifically call for the  
21          public counter to be in place so that the  
22          public can see it. My concern is that the  
23          public counter is there to protect the voter  
24          to verify that he or she is, in fact, that  
25          number of voter, but the protector counter is

1 there to make sure you know how many machine  
2 cycles there is and it is a backup to the  
3 public count so that's just a follow-up.

4 MR. SMITH: The voter will be able  
5 to see that when they come up before they  
6 insert their card, when it's in the "waiting  
7 for next voter" screen, whether activated by  
8 card or manually, if it has that thing.

9 Let me bring you back to that  
10 screen.

11 So when you're in the "waiting for  
12 the next voter," it does show both counts.

13 CHAIRMAN WOODBRIDGE: Just one  
14 comment.

15 I do see public counter and a  
16 protective counter. Now, the protective  
17 counter is sometimes referred to as a private  
18 counter in other statutes and that's usually  
19 concealed from the voter. I don't know  
20 whether that's a concern to the AG's office or  
21 not, but if it were left to me, I would prefer  
22 to see that somewhere where the voter doesn't  
23 see it. The back of the machine would be an  
24 appropriate place to display it, I think,  
25 which it is in the old lever machines.

1                   Okay.

2                   Ellen Marie, I think the record  
3 should reflect the fact that the Committee  
4 went over there to take a look at the machine,  
5 took about a 15 to 20 minute regression to  
6 watch it go through the voting cycle, the  
7 set-up cycle, close-out cycle and to answer  
8 some questions with regard to the public and  
9 protective counters.

10                   Mr. Smith, any more comments or  
11 introductory remarks with regard to your  
12 equipment?

13                   MR. SMITH: No, sir.

14                   CHAIRMAN WOODBRIDGE: In a slight  
15 departure from yesterday's procedure, in  
16 defense to everybody's schedule, I'm going to  
17 ask Mr. Millstein if he would please come  
18 forward and tell us about his experience with  
19 regard to the use of the Sequoia Edge by  
20 people with disabilities and it's good to have  
21 you back again this morning.

22                   MR. MILLSTEIN: Good morning.

23                   Thank you very much.

24                   For the record, my name is  
25 David Millstein. I'm the State ADA

1 Administrator for the Americans with  
2 Disabilities Act.

3 Based on the Edge machine, the  
4 machine itself has a 32-inch clearance for  
5 direct roll-in for a wheelchair user.

6 The screen has the ability to tilt  
7 for confidentiality for a person of short or  
8 large stature, as well as for control for a  
9 wheelchair user.

10 The screen also has the ability  
11 for a font change for large print for someone  
12 with a low-vision impairment and also is in  
13 contrast color.

14 Utilizing the hand control and  
15 audio for a person who is blind, the hand  
16 control is made up of four buttons, each  
17 button has -- is considered for the help,  
18 back, forward and select button. These  
19 buttons are also in a tactile style, as well  
20 as Braille.

21 The earphone is a headset attached  
22 to the hand control. The instructions for the  
23 voter is voice recorded. Once you get into  
24 the ballot process, then it becomes a voice  
25 synthesizer, which would allow from text to

1 speech to allow the voter to hear what they're  
2 voting for.

3           Once that is activated, the screen  
4 itself goes blank, which then allows for full  
5 confidentiality for the voter, who only knows  
6 what they are hearing.

7           The voting process takes anywhere  
8 from seven to nine minutes based on the  
9 instruction that is given to the voter, how  
10 many times the voter would need to go back and  
11 forth to be able to understand and complete  
12 their actual ballot process.

13           Once the ballot process was  
14 completed, the audio reviewed exactly what the  
15 voter had placed for their selection and was  
16 also printed for anyone else -- for the  
17 election board to be able to read.

18           The machine certified what the  
19 person placed into the machine, as well as in  
20 audio, as well as in written form so this  
21 machine, also, would be accessible and I would  
22 certify that.

23           Thank you very much

24           CHAIRMAN WOODBRIDGE: Thank you  
25 very much.



1           Can I ask you one question that's  
2 a little bit different; that is, I'm looking  
3 at this machine and I'm imagining somebody who  
4 perhaps might be in a wheelchair.

5           Is there going to be danger of a  
6 machine like that falling over?

7           It seems to be sort of top heavy  
8 and doesn't seem to have a very broad base to  
9 it.

10          Is that ever a problem?

11          MR. MILLSTEIN: It is top heavy.  
12 It's not as sturdy, of course, as the other  
13 machine we did yesterday, but because you do  
14 have a 32-inch clearance, which is a roll-in  
15 clearance between one leg and the other leg, a  
16 standard wheelchair is 28 inches so you would  
17 have enough space in between for stability.

18          CHAIRMAN WOODBRIDGE: So in your  
19 opinion, it's not a significant problem?

20          MR. MILLSTEIN: No, I do not see  
21 that.

22          CHAIRMAN WOODBRIDGE: Just to  
23 summarize, you find the machine acceptable  
24 from the perspective of somebody with  
25 disabilities within the State of New Jersey?

1 MR. MILLSTEIN: That is correct.

2 CHAIRMAN WOODBRIDGE: I appreciate  
3 your comments. We'll see you tomorrow.

4 Thank you.

5 I am going to take a little  
6 privilege from the chair, if NJIT doesn't  
7 mind, I am going to ask Mr. Smith, could you  
8 show us how to do the write-in votes on that  
9 machine.

10 MR. SMITH: Yes, sir, I can.

11 Before that, I would like to say  
12 we used voice synthesized audio because this  
13 is the NJIT ballot, as directed by the AG's  
14 office in this hearings.

15 Many counties voice record the  
16 entire ballot to, once again, as I said  
17 before, comply under forms of local traditions  
18 and practices, local dialects, accents and a  
19 number of things, which does improve the  
20 experience of the audio voter. And they can,  
21 of course, use the many synthesized voices  
22 that are on the market for that purpose.

23 CHAIRMAN WOODBRIDGE: So they  
24 always have the option, if they choose to have  
25 a human person provide the pronunciation of

1 the individual who might be on the ballot and  
2 what the ballot position of that individual  
3 might be?

4 MR. SMITH: Yes, sir, as well as  
5 the contest and candidate information and then  
6 what we call the default audio, which is  
7 essentially the instruction audio that carries  
8 basically the same information for every  
9 voter.

10 CHAIRMAN WOODBRIDGE: Would you  
11 mind running us quickly through how you do the  
12 write-in and also take that to the third  
13 ballot for us?

14 Is it possible for the Committee  
15 to get a copy of the ballots that we saw  
16 printed so that we can put them in the record  
17 before the end of the day?

18 MR. SMITH: Yes, sir.

19 PROFESSOR VENETIS: Can you use  
20 the speaker so we can all hear?

21 Is it possible to use the speakers  
22 so that everybody could hear how he is  
23 operating the machine?

24 CHAIRMAN WOODBRIDGE: He has taken  
25 the mike with him.

1           MR. SMITH: I am not sure how a  
2 speaker is applicable, but I could certainly  
3 put it near the...

4           PROFESSOR VENETIS: I thought you  
5 meant for disabled voters. I'm sorry.

6           CHAIRMAN WOODBRIDGE: Oh, I'm  
7 sorry.

8           No, the write-in.

9           MR. SMITH: Just so we're clear,  
10 you just need a write-in demonstration, not an  
11 audio write-in demonstration?

12          CHAIRMAN WOODBRIDGE: We're  
13 currently asking for the write-in information.

14          MR. WYNHAM: All right.

15          Let me position the screen a  
16 little bit better for you.

17          Once you've chosen a write-in  
18 position, then the screen appears and we have  
19 an alpha-numeric keypad. This keypad is  
20 positioned -- you have the option in most of  
21 our devices to position the keyboard  
22 alphabetically or in typewriter style. I  
23 choose the write-in myself. I simply touch  
24 the letters A-N-D -- and Y is on here  
25 somewhere.

1           Like every other keyboard, it has  
2 your back-space functions, forward space  
3 spaces, periods, nothing has changed in the  
4 way that we do write-ins, this is just simple  
5 information and it is the information that  
6 comes out in the end. If I spell it wrong,  
7 the jurisdiction still evaluates the spelling,  
8 it is just a matter of putting in the name we  
9 use to write it.

10           If I am satisfied with the  
11 selection I have an "okay" and the selection  
12 is now recorded. The selection doesn't appear  
13 on the screen, but it will up here on the  
14 receipt when we do press the "cast vote."

15           If you want to just proceed to the  
16 end and witness that, I'm sure you're going to  
17 have to come a little closer if you want to  
18 see, but let me verify that Andy voted for  
19 Andy.

20           Everything else proceeds the same  
21 way. You can cancel the selection, redo the  
22 write-in, I can go back and make changes.

23           We'll do this a couple of times  
24 then, maybe I didn't mean to vote for Andy, I  
25 meant to vote for Ed, and that's a lot easier

1 to spell. And again, we'll just carry forward  
2 to the end.

3 MR. SMITH: While you didn't see  
4 it on the ballot page, you do see it on the  
5 electronic review screen so you get an  
6 electronic, as well as a paper opportunity to  
7 review the writing, it's not only the paper.

8 MR. WYNHAM: All right.

9 So one more time I'll proceed to  
10 the verification page, touch here to review  
11 paper ballot and this time Ed's name will  
12 appear under freeholder.

13 All right.

14 Again, we're going to make changes  
15 one more time, this is our third and final  
16 attempt, the warning Ed described before,  
17 saying, This is our last chance to make the  
18 change, return to the ballot and I find my  
19 write-in position again. I'm going to change  
20 it from Ed to Joe. I'm satisfied with Joe,  
21 press okay and I'm going to proceed directly  
22 to the review screen and see if Joe appears on  
23 the screen, as well.

24 Now, of course, I've got to touch  
25 here. I don't have a chance to make a change,

1 but I will have a chance to see that Joe does  
2 appear on my written ballot.

3 The entire ballot is going to  
4 print and there is going to be a short delay  
5 and then it will disappear from view.

6 We can do an audio vote if that's  
7 the direction. It will take about three  
8 minutes to get set up. The audio vote is a  
9 little tedious to get through.

10 MR. MILLSTEIN: Mr. Chairman, I  
11 can verify that through the audio, I was able  
12 to do a write in ballot.

13 Yes, it is tedious because as the  
14 invoice synthesizer gives you letter by  
15 letter, once you hear the letter that you  
16 want, you then have to select it, it then goes  
17 to the next letter until you write out the  
18 entire name.

19 CHAIRMAN WOODBRIDGE: It certainly  
20 wouldn't hurt to go through that, as well. If  
21 you would set that up and maybe we can  
22 complete the other parts of the hearing.

23 (Discussion off the record.)

24 CHAIRMAN WOODBRIDGE: In order to  
25 expedite things, what I think might be useful,

1 Mitch, if your group is ready is while they're  
2 setting up their audio demonstration, why  
3 don't we get your presentation and then  
4 perhaps we can go back and listen to this  
5 audio part of it.

6 I understand that the presentation  
7 may not be quite as comprehensive as  
8 yesterday, but I know it's going to be  
9 definitely, at least, as accurate.

10 So, Mitch, thank you for coming  
11 and we look forward your comments.

12 MR. DARER: Thank you.

13 Good morning.

14 Thank you for this opportunity.

15 Once again, my name is Mitchell  
16 Darer, D-a-r-e-r, Executive Director of NJIT's  
17 Center For Information Age Technology. I will  
18 provide an overview. Professor Ari Jain will  
19 describe test sample sizes and ballots and  
20 Professor Yun Q. Shi will discuss the specific  
21 findings for the Edge machine under  
22 examination today.

23 After the criteria was issued, the  
24 Attorney General's office asked NJIT to  
25 develop and conduct testing to evaluate



1 certain machines against the criteria, the  
2 requirements in the criteria address design,  
3 security and reliability and these all form  
4 the performance criteria used in our tests.  
5 Some are qualitative and subjective; such as,  
6 quote, allowing the voter to easily review his  
7 or her paper record. And others are  
8 quantitative matters of fact to be determined;  
9 such as, the machine that shall not externally  
10 communicate to any other system.

11 Each of almost 70 individual  
12 requirements in the criteria were subjected to  
13 up to four different types of tests. Two core  
14 requirements were satisfied by all machines  
15 and I think these are key:

16 One, the voters were able to  
17 verify their votes by viewing the paper  
18 record.

19 Two, the vote tallies derived from  
20 four different sources match and those sources  
21 were paper records, reviewing the paper  
22 records, the barcodes on the paper records,  
23 the closed poll reports and the internal  
24 electronic records.

25 Exceptions are defined as a

1 situation where in testing against criteria  
2 did not completely or clearly yield the  
3 required or expected results were also  
4 reported for each machine.

5 The project team included senior  
6 faculty and staff with extensive expertise in  
7 information technology, cyber security and  
8 networks, as well as statistical analysis.

9 A secure lab was established to  
10 design and perform the testing and to house  
11 all vendor items. Each vendor supplied three  
12 machines for each particular model,  
13 documentation and other equipment, such as  
14 scanners and audio components.

15 The vendor staff explained machine  
16 operations and answered technical questions,  
17 although they were not present at or involved  
18 in the actual testing, nor did the Attorney  
19 General's office influence or participate in  
20 the testing.

21 The team spent thousands of hours  
22 over two months on this project scientifically  
23 and objectively evaluating and documenting the  
24 machine's performance against the criteria.

25 To support the testing sample,

1 ballots were developed and four different test  
2 procedures were designed and used to evaluate  
3 the different elements of the performance  
4 criteria and, also, were established for  
5 different reasons.

6 Now, I would like to introduce  
7 Professor Ari Jain to describe the tests, the  
8 ballots and the sample sizes.

9 CHAIRMAN WOODBRIDGE: Thank you,  
10 Mitch.

11 PROFESSOR JAIN: Good morning and  
12 thank you. I am Ari Jain, Special Lecturer  
13 and Coordinator of Statistical Consulting Lab,  
14 Department of Mathematical Sciences at NJIT.

15 I will describe to you four types  
16 of tests, the sample sizes, the ballots, the  
17 test scenarios and the four types of tallies  
18 of the votes.

19 We developed four types of tests,  
20 a single test and a three-volume test.

21 The single test is a one-time  
22 examination inspection or review of equipment,  
23 operations and vendor documentation. It  
24 includes a physical inspection of various  
25 components of the DRE and the VVPR voting

1 system, as well as examination of paper  
2 records, electronic records and barcodes.

3 Now, the three-volume tests,  
4 14-hour test, 100 vote test and the 52-vote  
5 test.

6 The 52-vote test is designed to  
7 check the multipage ballot. Now, that is not  
8 applicable to Edge because it is a rolling  
9 paper so we did the other two volume tests.

10 We used two types of ballots. The  
11 short ballot is the one that you see on the  
12 Edge machines here and then we had a long  
13 ballot. The long ballot had nineteen elements  
14 or items to vote. This one has nine.

15 We developed twelve scenarios for  
16 the volume tests. Eight of them were  
17 completely balanced in terms of the way a  
18 voter cast a vote for the different party  
19 affiliations and the yes/no answers, then we  
20 have four scenarios to check out the write-in  
21 and the no votes.

22 Now, let me turn to the 14-vote  
23 test. The 14-vote test emulates the actual  
24 physical voting on a typical day in a real  
25 election.

1 MR. DARER: Fourteen hour.

2 PROFESSOR JAIN: Excuse me,  
3 14-hour test. Typically, you have 14 hours of  
4 voting. We used mock voters to cast these  
5 ballots. They worked for about an hour voting  
6 different scenarios, which we presented to  
7 them shuffled to achieve randomization.

8 And then, after the voting was  
9 done, we had full sets of counted. I'll talk  
10 about that in a minute.

11 We did the 1200-vote simulated  
12 test, which is generated by continuous  
13 operation of the machine through a scripted  
14 program. The 1200 votes were cast  
15 electronically and, again, we counted the four  
16 types of tallies.

17 Now, let me turn to those tallies.  
18 One is a tally of the actual paper ballots.  
19 The second is from the barcodes that were  
20 scanned through the scan records tally. Third  
21 is the closed poll tally that you saw earlier  
22 and the fourth is the electronic votes.

23 In both the volume tests, all  
24 these four types of tallies matched perfectly.  
25 We did not find any discrepancy among these

1 four tallies for both the 14-hour test and the  
2 1200-vote test.

3 CHAIRMAN WOODBRIDGE: Thank you,  
4 Professor Jain.

5 Professor Shi, right?

6 PROFESSOR SHI: Yes.

7 Thank you.

8 And yes, as has already been  
9 mentioned by, I mean, Mitch --

10 CHAIRMAN WOODBRIDGE: You may want  
11 to give your full introduction.

12 PROFESSOR SHI: Okay.

13 My name is Yun Q. Shi. I am a  
14 professor in the Electrical and Computer  
15 Engineering Department at NJIT.

16 As Mitch already mentioned, our  
17 tests indicate that the Sequoia AVC Edge  
18 machine, basically, with some fixable  
19 problems, voters can verify their selections  
20 on paper record.

21 Also, electronic records and paper  
22 records match each other in both our single  
23 test and volume tests so we consider overall  
24 the machine complied with most of the criteria  
25 -- with the 11, I mean, exceptions.

1                   Those exceptions, some are  
2 problems, which violate or not 100 percent  
3 comply with the criteria. Some are just  
4 additional reporting, which we feel we have to  
5 report.

6                   Now, Exception No. 1.

7                   According to Criteria II.B.1, The  
8 VVPRS may be designed in various  
9 configurations. In all configurations, prior  
10 to casting the ballot, the voter should have  
11 the ability to verify his or her selections on  
12 a paper record in a private and independent  
13 manner.

14                   Our tester found that an observer  
15 may be able to read the screen or paper record  
16 if he or she stands behind the voter.

17                   Exception No. 2, Criterion  
18 II.B.11.a reads, The paper record shall be  
19 printed and the voter shall have the  
20 opportunity to verify the paper record in its  
21 totality prior to the final electronic record  
22 being recorded.

23                   Our finding is for the third paper  
24 record, once a voter presses the "cast ballot"  
25 button to cast the ballot, that paper record

1 is printed, but is only reviewable by the  
2 voter for a few seconds and is then advanced  
3 to the storage in rear. There is not enough  
4 time for the voter to verify the selections on  
5 the third paper record.

6           Actually, in a multiple-sheet  
7 case, all sheets will go out continuously  
8 without, I mean, skewed time for voter to  
9 verify it.

10           Exception No. 3, Criterion II.B.11  
11 reads, An electronic ballot image record  
12 should have a corresponding paper record.

13           IV.B.1 reads that the electronic  
14 ballot image record and paper records shall be  
15 linked by including unique identifiers so that  
16 an individual paper record can be identified  
17 with its corresponding electronic record.

18           Our finding is the following: The  
19 electronic ballot image records are saved in  
20 the ascending order of Sequoia "VoterID" (an  
21 index referred by the vendor): the "VoterID"  
22 is contained in the barcode of the  
23 corresponding paper record. "VoterID" is the  
24 linkage of electronic ballot image record to  
25 the corresponding paper record. Matching the



1 electronic ballot image record to the  
2 corresponding paper records is difficult for a  
3 large volume of voters. I think the reason I  
4 already explained yesterday was the same  
5 situation for Advantage is similar.

6 And exception No. 4, Criterion  
7 III.A.I. reads, The printer shall be designed  
8 to have a sufficient amount of paper, ink,  
9 toner, ribbon or like supply for use in an  
10 election, taking into account an election  
11 district should have at least one voting  
12 machine per 750 registered voters.

13 Our finding is paper replacement  
14 is expected after about 120. I mean, vote  
15 sheets, voters.

16 Exception No. 5, the Criterion  
17 III.A.I.(a) reads, If any additional or  
18 replacement of paper, ink, toner, ribbon or  
19 other likely supply is required, it shall be  
20 done with minimal disruption to voting and  
21 without circumvention of the security features  
22 of the printer and storage unit, which protect  
23 the cast ballots and the secrecy of the vote.

24 Our finding is that the printed  
25 paper records are accessible during the paper

1 change process.

2 Exception No. 6, Criterion III.D.I  
3 reads, Security protections including, but not  
4 limited to, security seals or locking  
5 mechanisms shall be built into the storage  
6 unit to prevent tampering at all times,  
7 including pre-election, election day, and  
8 post-election.

9 Our finding is the storage reel of  
10 printed paper records is accessible upon  
11 removing the printer cover.

12 Exception No. 7, Criterion IV.B.2  
13 reads, The DRE should generate and store a  
14 digital signature for each electronic record.

15 IV.B.3.b reads, The records should  
16 be exported with a digital signature, which  
17 shall be calculated on the entire set of  
18 electronic records and their associated  
19 digital signatures.

20 Our finding is that DRE does not  
21 generate digital signature for each electronic  
22 record; namely, electronic ballot image record  
23 of an accepted paper record. It does generate  
24 a digital signature for the entire set of  
25 electronic records (electronic ballot image

1 records); this is calculated on the entire set  
2 of electronic records without their associated  
3 digital signatures.

4 Exception No. 8, Criterion V.E.  
5 reads, The printer shall be connected to the  
6 voting machine either by completely concealing  
7 the printer connection or via a security tag  
8 to prevent tampering.

9 Our finding is the cable  
10 connectors (of the printer cable and power  
11 cord) of the voting machine are exposed  
12 without any protection.

13 Exception No. 9, Criterion V.F.  
14 reads, The DRE shall detect and notify  
15 election officials at the polling place of any  
16 errors and malfunctions.

17 Criterion V.G. reads, If a  
18 mechanical error or malfunction of the DRE  
19 occurs (such as, but not limited to, a paper  
20 jam or running out of paper), the DRE and the  
21 VVPRS shall suspend voting operations, not  
22 record votes and present a clear indication of  
23 the malfunction to the voters and the election  
24 officials.

25 Our finding is a mechanical error

1 or malfunction of the VVPRS does not prompt  
2 any error message or warning signal, but it  
3 "freezes" the system.

4 Exception No. 10, Criterion V.H.  
5 reads, If the connection between the voting  
6 machine and the printer has been broken, the  
7 voting machine shall detect and provide notice  
8 of this event and record it in the DRE's  
9 internal audit log. Voting operations shall  
10 be suspended and no votes shall be recorded."

11 Our finding is a printer  
12 disconnection is not a recorded in the DRE's  
13 internal audit log.

14 Exception 11 is actually, I mean,  
15 denoted as Miscellaneous. It reads, The  
16 machine does not accommodate fleeing voters.  
17 If the voter leaves without finishing the  
18 voting, there is no audio or visual signature  
19 to alert the poll worker to intervene.

20 CHAIRMAN WOODBRIDGE: Dr. Shi, if  
21 I could ask a couple of questions.

22 PROFESSOR SHI: Sure.

23 CHAIRMAN WOODBRIDGE: Did you  
24 state at the beginning or maybe perhaps I  
25 misunderstood that you thought these 11

1 exceptions were fixable; is that your opinion?

2 PROFESSOR SHI: It's -- should I  
3 answer this one?

4 MR. DARER: He may or may not have  
5 said that, but I think we need to stay out of  
6 that area.

7 Thank you.

8 CHAIRMAN WOODBRIDGE: Let me ask  
9 one or two more questions while we're  
10 tiptoeing on other sensitive areas.

11 We did see a demonstration of the  
12 machine when it went through two spoiled  
13 ballots and then presented a third paper  
14 ballot, which was ultimately accepted.

15 I didn't count the time. I think  
16 Mr. Smith suggested it might be 18 seconds. I  
17 don't know.

18 When you did the inspection, could  
19 you tell whether the amount of time that the  
20 voter had to look at the third ballot was the  
21 same as the time that we just saw here?

22 PROFESSOR SHI: Okay.

23 I also noticed this and discussed  
24 it with our team members.

25 Let me say a few things.

1           One is that during the first  
2 vote -- first cast, second cast, if that  
3 happens, the paper record will issue up and is  
4 still there for a period of time that voter  
5 wishes, so he can -- he or she has enough time  
6 to view it; but for the third one, it -- after  
7 you say yes, it -- the voter printout the  
8 results, but that printed paper is continually  
9 moving from bottom to the up. It's not still  
10 so the voter does not have enough time to view  
11 it, No. 1.

12           No. 2, in the first and the second  
13 one, the view -- there is a signal prompter to  
14 the voter, Do you want to cast it? If you  
15 want, then that paper will do something.

16           For the third one, there is no  
17 such thing. Especially, if you have multiple,  
18 I mean, sheets, multiple sheets, say, two  
19 sheets will continuous go, printout and go to  
20 the rear, so that maker -- the third one  
21 different from the first two. Of course, the  
22 third one is different from first two in the  
23 sense you cannot change anymore; that's  
24 according to the criterion, but the criterion  
25 should provide a voter a chance to view it

1 because in this case the voter will feel, I  
2 voted for this, finally, this appears, all due  
3 to my own mistake, if it doesn't show up. So  
4 he knows, he or she knows and he or she will  
5 feel confident.

6 CHAIRMAN WOODBRIDGE: So your  
7 sense is that the third vote, even though it  
8 doesn't stay static, moves too quickly for  
9 some voters to digest what they've put on the  
10 paper ballot; is that a fair statement?

11 PROFESSOR SHI: Yes.

12 CHAIRMAN WOODBRIDGE: You also  
13 raise in here one or two things that caught my  
14 attention with regard to the accessibility of  
15 the roll, especially during paper change.

16 With the permission of my two  
17 cohorts up here, I'm going to ask the vendor  
18 to not only demonstrate the audio aspect of  
19 the machine, but also to show us how a roll  
20 change was done and what the security issues  
21 are.

22 Is that okay with you, Mr. Smith?

23 MR. SMITH: Yes, sir.

24 CHAIRMAN WOODBRIDGE: Why don't we  
25 start with the audio if you're set up and if

1 you wouldn't mind showing us how the roll  
2 change procedure takes place.

3 (Demonstration takes place;  
4 following comments and questions made at that  
5 time.)

6 MR. WYNHAM: I want to preface my  
7 remarks to say that the time for set up is not  
8 the time when polling is in place, but I put  
9 the speakers in place so everybody could hear  
10 the presentation, I did a couple of things.

11 During the demonstration, I am  
12 going to start off by allowing you to hear the  
13 whole range of instructions given to a voter  
14 and I know it seems tedious, but as we start  
15 going in, I will move beyond the instructions.

16 I will demonstrate that once the  
17 voter is accustomed to using this device, they  
18 don't have to listen to all the instructions,  
19 they don't have to listen to the full set of  
20 candidates. If they have a candidate and they  
21 know the candidate they want to vote, they can  
22 get to that.

23 Even though I said initially this  
24 is really cumbersome, once you get comfortable  
25 it is a much easier process.



1                   We will do a write-in vote and I  
2 will demonstrate that we can cancel a  
3 write-in.

4                   (Machine demonstrated.)

5                   CHAIRMAN WOODBRIDGE: The next  
6 request was to show how you to a roll change  
7 during the middle of an election.

8                   (Machine demonstrated.)

9                   CHAIRMAN WOODBRIDGE: Now, just a  
10 question or two.

11                   When you replace the paper, do you  
12 just take the cartridge out and put another  
13 cartridge in; is that what you do?

14                   MR. SMITH: It is Sequoia's  
15 recommended procedure that you swap out the  
16 units.

17                   CHAIRMAN WOODBRIDGE: Then do I  
18 understand correctly at no time does the poll  
19 worker, him or herself actually touch the  
20 paper; is that correct?

21                   MR. SMITH: It varies by state  
22 law. Some states do not allow you to do  
23 anything but swap the units. Some states do  
24 allow you to go in the machine to switch the  
25 paper and they will have a change of custody

1 procedures around the seals that go here over  
2 the cover and after they have a two judges of  
3 election sign-off on that, they will remove  
4 the cover, which simply unscrews and then they  
5 will take the roll that is full, which will be  
6 in the upper portion of the unit, they will  
7 remove that, after the chain of custody  
8 procedure is over, they will reapply an empty  
9 roll to the lower, which then feeds through  
10 the print head and I believe there is an auto  
11 feed. Oh, not on this one. The more modern  
12 machines have an auto feed. At any rate, this  
13 is a manual feed with a green lever and you  
14 put it through.

15 There is also a black pipe sleeve  
16 to facilitate taking the roll off either at  
17 the center count or, if allowed, in the  
18 polling place.

19 CHAIRMAN WOODBRIDGE: So it  
20 depends state by state. Some states don't let  
21 you get into the paper roll during the change  
22 of a process and you have to change cartridges  
23 and some states apparently do let you go in  
24 and do certain changes with proper  
25 authorization and chain of control?

1 MR. SMITH: Yes.

2 CHAIRMAN WOODBRIDGE: Does the  
3 Committee have any other questions?

4 John.

5 COMMITTEEMAN FLEMING: So to try  
6 to get your 750 voters per machine, you would  
7 suggest that each machine that the county has,  
8 they buy five printers?

9 MR. SMITH: Once again, it varies  
10 by state law. We do have longer rolls that  
11 were tested at NJIT so there are some  
12 additional voters available, but I believe  
13 that the 300-some-odd-foot rolls that were  
14 tested, 120 is probably about right, but you  
15 can go up to a 400-foot roll.

16 COMMITTEEMAN FLEMING: Right, but  
17 to get to the 750 criteria, you would have to  
18 have like five different printers then?

19 MR. SMITH: Yes, you would need an  
20 additional number of printers.

21 CHAIRMAN WOODBRIDGE: Thank you.

22 Mr. Smith, let's go back to our  
23 meeting.

24 MR. DARER: Mr. Chairman.

25 CHAIRMAN WOODBRIDGE: Yes, sir.

1                   MR. DARER: Before we leave the  
2 printer issue, can I supplement our statement?

3                   CHAIRMAN WOODBRIDGE: Please go  
4 ahead.

5                   MR. DARER: What you saw was  
6 accurate and what we stated was accurate.

7                   The units we were testing did not  
8 have any spare printing units so for us to  
9 change the paper, we took the cover off.

10                  CHAIRMAN WOODBRIDGE: That was a  
11 very useful insight.

12                  So I think part of your comments  
13 with respect to the issue of poll workers  
14 touching the paper related to the situation  
15 where that was the only choice you had to  
16 provide more paper in the machine, you didn't  
17 have extra cartridges to swap out; is that  
18 right?

19                  MR. DARER: So the solution is a  
20 combination of law and procedures.

21                  CHAIRMAN WOODBRIDGE: Thank you  
22 very much.

23                  The record should reflect that we,  
24 the members of the Committee were furnished  
25 with NJIT's comments.

1           We also received comments from the  
2 attorney for Sequoia in response to the level  
3 exceptions and each of the Committee members  
4 has been provided with that.

5           Without further adieu, we're going  
6 to start the laborious process of walking  
7 through the different criteria like we did  
8 yesterday with a view towards taking a break a  
9 little before 12:30 and then re-adjourn  
10 thereafter.

11           We took a break yesterday of about  
12 an hour, that seemed to be -- that seemed to  
13 be a little bit generous.

14           Is an hour, too much, too little?

15           It seems about right; okay.

16           So we'll try to aim for a break  
17 about 12:30 with the object of re-adjourning  
18 promptly at 1:30 and finishing our job here.

19           Okay.

20           For the record, we're going to do  
21 the same procedure we did yesterday and that  
22 is we're going to read from the criteria that  
23 has been provided to us by the State and ask  
24 the vendor to respond and tell us to what  
25 extent or not their machine in their opinion

1 meets the criteria.

2 We also cross-referenced the  
3 criteria with the input and 11 exceptions  
4 we've gotten from NJIT.

5 So I am going to start on page 3,  
6 excuse me, page 2, of the criteria with  
7 Section B, Operation. And that section reads,  
8 The VVPRS may be designed in various  
9 configurations. In all configurations, prior  
10 to casting the ballot, the voter shall have  
11 the ability to verify his or her selections on  
12 a paper record in a private and independent  
13 manner.

14 I note that that was a subject of  
15 NJIT's first section exception, which  
16 incidentally, I should read for you again,  
17 where it says, An observer may be able to read  
18 the screen or record if he or she stands  
19 behind voter.

20 MR. SMITH: Mr. Chair, a couple of  
21 things.

22 One, I doubt very seriously that  
23 any voter would allow somebody to come  
24 immediately behind them and start peering over  
25 their shoulder and looking around in a

1 spurious manner to see their vote.

2           There are, as you see, the privacy  
3 screens on the left, right and top of the  
4 equipment. Of course, the bottom of the  
5 equipment would not likely be viewed for a  
6 vote.

7           There are laws against loitering  
8 and doing the exact thing that is mentioned  
9 here so, yes, you know, on some kind of a  
10 sneaky basis, if they looked around and peered  
11 and repeatedly attempted to look over the  
12 voter, it is plausible and conceivable that  
13 that could happen, but, in practice, it's not.

14           CHAIRMAN WOODBRIDGE: I think the  
15 testimony earlier on was that Salem County has  
16 had two machines; is that correct?

17           MR. SMITH: Yes, it is.

18           CHAIRMAN WOODBRIDGE: Are they  
19 configured -- except for the printer, are they  
20 configured the same way as the ones we're  
21 looking at here?

22           MR. SMITH: Yes, sir.

23           CHAIRMAN WOODBRIDGE: Does the  
24 Committee have any comments on that issue?

25           Part B.2. The VVPRS shall be

1 designed to allow the voter to easily review,  
2 accept or reject his or her paper record.

3                   And then under that, 2(a). The DRE  
4 shall not record the electronic record until  
5 the paper record has been approved by the  
6 voter.

7                   This is, also, the subject of  
8 Exception No. 2 from NJIT.

9                   MR. SMITH: The exception,  
10 Mr. Chair, is the third paper record and I've  
11 discussed that already today, that we believe  
12 that with the pause on the third printout,  
13 that the VVPAT record, also, the slow speed  
14 relative to the Advantage that the Edge prints  
15 and that it pauses, although we can't  
16 demonstrate it here, I believe it pauses  
17 between pages of a multiple page VVPAT and,  
18 obviously, if the ballot is longer, it takes a  
19 longer period of time of for it to print. I  
20 believe it gives the voter the opportunity to  
21 review the changes. By statute, they can't  
22 change it, but I think, in this case, with the  
23 Edge it does give the voter an ample  
24 opportunity to review the choices as the  
25 foot-long window -- as the print scrolls



1 through the foot-long window.

2 CHAIRMAN WOODBRIDGE: One of the  
3 issues with this new criteria is that it  
4 doesn't give us any guidance on how long the  
5 voter should have an opportunity to see that  
6 third ballot.

7 I am going to ask the question if  
8 the State requested a longer dwell time for  
9 the voter to inspect the third ballot, could  
10 that be done and would that be difficult?

11 MR. SMITH: I'm not sure of the  
12 difficulty, sir, because I'm not a system  
13 architect for the system; but, yes, it could  
14 be done.

15 CHAIRMAN WOODBRIDGE: It could be  
16 done.

17 Do you have any idea -- I think I  
18 heard you say you counted off 18 seconds while  
19 the paper ballot scrolled up.

20 It would be useful to the  
21 Committee if we could get some objective idea  
22 of how long that period of time is that a  
23 voter might be able to inspect, say, a fairly  
24 short ballot. If you can get that information  
25 for us, it would be appreciated.

1           MR. SMITH: Well, sir, I submit  
2 that this is a fairly short ballot. It's one  
3 page on the VVPAT. We see the equivalent  
4 ballot on the full-face machines so you see  
5 there are very few contents.

6           MR. DARER: Thank you.

7           Before we leave this, we found on  
8 multiple, not multiple page, but long ballots,  
9 the paper moved through on the third try  
10 continuously so that if it were a long one,  
11 they wouldn't really -- we didn't feel they'd  
12 have the time to see it because it's moving  
13 continuously.

14          COMMITTEEMAN FLEMING: Now, with  
15 this machine, is this one going through any  
16 modifications, as the other one was going  
17 through?

18          MR. SMITH: Development proceeds  
19 pretty continuously at Sequoia, as well as our  
20 competitors so the equipment generally is  
21 always under development with the changing  
22 regulations, such as this one.

23          COMMITTEEMAN FLEMING: Is this  
24 machine in testing at this point, Federal  
25 testing?

1 MR. SMITH: No, sir; it is not.

2 CHAIRMAN WOODBRIDGE: I'm going to  
3 move along, B.3. The VVPRS records may be  
4 printed and stored by two different methods:  
5 (a). "Cut and drop" Method, which we're not  
6 looking at today; (b). "Continuous Spool"  
7 Method: The voter views the paper record on a  
8 spool-to-spool paper roll. This method shall  
9 be used in a manner that fully protects the  
10 secrecy of all votes cast.

11 I'm not sure that requires  
12 response from the vendor.

13 B.4. No electronic or paper record  
14 shall indicate the identity of the voter or be  
15 maintained in a way that allows a voter to be  
16 identified.

17 MR. SMITH: Mr. Chair, the name of  
18 the voter and any identifying information  
19 associated with the voter is stripped out of  
20 the system before it gets to the machine.

21 The only thing that comes forward  
22 with the voter is their ballot cycle, so there  
23 is no opportunity to identify through the  
24 records which voter voted when.

25 CHAIRMAN WOODBRIDGE: I guess one

1 of the things that is of concern to people  
2 like myself is even though there is no  
3 identity of the voter, in New Jersey, voters  
4 typically come in and get issued a number and  
5 vote in sequence. And I'm sure that sequence  
6 is probably preserved on the paper roll. I  
7 don't know if there is any way you can deal  
8 with that issue.

9 MR. SMITH: Mr. Chair, the  
10 counties have already dealt with that by  
11 deploying between two and four units in each  
12 of their polling places, so just because you  
13 are No. 12, let's say, it doesn't mean you're  
14 No. 12 on a particular machine because you can  
15 choose between any machine.

16 MR. WYNHAM: Mr. Chairman.

17 CHAIRMAN WOODBRIDGE: Yes, sir.

18 MR. WYNHAM: Andy Wynham on behalf  
19 of Sequoia.

20 I just want to point out that the  
21 regulation permits both the "cut and drop" and  
22 the "reel-to-reel" so that is not, not in  
23 compliance with the State regulations.

24 CHAIRMAN WOODBRIDGE: Just because  
25 they permit them doesn't necessarily mean that

1 they don't need to be safeguarded to protect  
2 the public with regard to the issue of voter  
3 identification.

4 MR. WYNHAM: Certainly, we would  
5 defer to the Committee on that, but I do want  
6 to point out for the record that it is not a  
7 violation of the regulations.

8 CHAIRMAN WOODBRIDGE: It couldn't  
9 be in the criteria if it were a violation of  
10 the regulations.

11 The issue I am trying to get at is  
12 it seems to be inherently less secure in terms  
13 of the voter identification, than the "cut and  
14 drop" where there is a more random aspect to  
15 it.

16 COMMITTEEMAN FLEMING: On your  
17 machines, you use two different styles of  
18 printers.

19 MR. SMITH: Yes, sir.

20 COMMITTEEMAN FLEMING: I am trying  
21 to get an idea of why you have two different  
22 styles or is it just how they were developed?

23 MR. SMITH: It was just how they  
24 were developed. There was not necessarily a  
25 particular reason for it, other than the types

1 of printers that you see on the Edge 1 were  
2 widely available at the time that VVPAT was  
3 developed.

4 COMMITTEEMAN FLEMING: Is there  
5 any contemplation that you could have  
6 intermixing, or not intermixing, but  
7 interchangeable printers?

8 MR. SMITH: We're not developing  
9 that solution, no, sir.

10 CHAIRMAN WOODBRIDGE: Section B.5.  
11 The electronic and paper records shall be  
12 created and stored in ways that preserve the  
13 privacy of the record.

14 We note that this is also one of  
15 the noted exceptions that NJIT mentions,  
16 Exception 1.

17 How do you store your paper  
18 records?

19 MR. SMITH: Well, the paper  
20 records are stored in the box that you see  
21 where you can put the tamper-evident seals  
22 and/or locks so there are two holes to seal  
23 the box or a combination on the outside of the  
24 VVPAT itself.

25 CHAIRMAN WOODBRIDGE: Is this

1 system in operation anywhere that we're  
2 looking at today?

3 MR. SMITH: In the State of New  
4 Jersey?

5 MR. WOODBRIDGE: Anywhere. I  
6 mean, the roll-to-roll paper like you have on  
7 the Edge machine; is anybody using that  
8 presently?

9 MR. SMITH: The answer is: 21  
10 California counties are utilizing it. The  
11 City of Chicago are utilizing it, but the  
12 VVPAT construction is essentially the same  
13 with the reel-to-reel and the "cut and drop."

14 Yes, sir. There are, I think,  
15 between 80,000 and 90,000 Edge units of all  
16 generations, just as the Edge 1 sold over the  
17 United States.

18 CHAIRMAN WOODBRIDGE: There are  
19 80 to 90 thousand Edge units that have the  
20 VVPAT units on them?

21 MR. SMITH: I should be more  
22 clear. A little over half of those have the  
23 VVPAT units. For instance, Florida uses the  
24 Edge 1, but it's not a VVPAT regulation state.

25 MR. WOODBRIDGE: So out of the

1 80 to 90 thousand, perhaps 40 to 50 thousand  
2 might include a roll-to-roll device, as we  
3 just saw exhibited?

4 MR. SMITH: Yes, sir; that's a  
5 reasonable estimate.

6 MR. WOODBRIDGE: Where is the  
7 first one you had installed?

8 MR. SMITH: The State of Nevada  
9 used the Edge 2, which is very similar to the  
10 Edge 1, with the same VVPATs, that you see  
11 here. In 2004, that was the very first use of  
12 a voter-verified paper trail in a United  
13 States election.

14 COMMITTEEMAN FLEMING: They used  
15 it in 2004.

16 Have they continued to use it?

17 MR. SMITH: Yes, sir.

18 COMMITTEEMAN FLEMING: So they've  
19 gone through two years plus of elections --

20 MR. SMITH: Yes, sir.

21 COMMITTEEMAN FLEMING: -- and had  
22 success with it?

23 MR. SMITH: Yes, sir. The press  
24 coverage has been uniformly very good from the  
25 beginning to the present time.



1                   MR. WOODBRIDGE: On that same  
2 note, you indicated that jurisdictions have  
3 different approaches with regard to whether  
4 you run out of paper or not. And I think you  
5 testified that in some cases they simply swap  
6 out a cartridge and in other cases they might  
7 remove the side and actually replace the paper  
8 inside.

9                   Do you have any idea how many  
10 jurisdictions simply swap out cartridges  
11 versus go in and replace the paper roll during  
12 the election?

13                   MR. SMITH: No, I do not and defer  
14 to counsel.

15                   (Discussion off the record.)

16                   MR. SMITH: We don't have any  
17 specifics on that.

18                   CHAIRMAN WOODBRIDGE: It might be  
19 helpful if we could get. They don't have to  
20 be perfect, but some kind of estimate or  
21 statistic of that sort for -- before Friday if  
22 we could do that.

23                   MR. SMITH: Yes, sir.

24                   CHAIRMAN WOODBRIDGE: Continuing  
25 over to page 4, B.6. The VVPRS components

1 shall conform to federal and state  
2 accessibility requirements.

3 6(a). These requirements shall  
4 include, but are not limited to, an audio  
5 component that shall accurately relay the  
6 information printed on the paper ballot to the  
7 voter.

8 We heard Mr. Millstein comment on  
9 that. It sounded like he did so favorably  
10 and, of course, the Committee took a second  
11 recess and took a look at the machine.

12 Do you have any comments with  
13 regard to that issue?

14 MR. SMITH: No, sir. I think it's  
15 been quite honestly demonstrated today.

16 MR. WOODBRIDGE: All right.

17 B.7. The VVPRS device shall draw  
18 its power from the DRE or the same electrical  
19 circuit from which the DRE draws its power.

20 MR. SMITH: You may have noticed  
21 there is one cable going up to the VVPAT unit  
22 and carries both power applications with it.

23 CHAIRMAN WOODBRIDGE: I believe we  
24 saw the gentleman over there actually plug in  
25 the power to the printer at one stage; is that

1 correct?

2 MR. SMITH: Yes.

3 COMMITTEEMAN MAHONEY: Is there a  
4 battery backup for the Edge machine should the  
5 power go out during an election and continue  
6 to use the VVPRS?

7 MR. SMITH: Yes, there is. And  
8 the battery will apply power to both the DRE  
9 base unit and the VVPAT.

10 COMMITTEEMAN MAHONEY: Do you know  
11 how long that is?

12 MR. SMITH: No, I don't know, but  
13 voter standards require a minimum of two  
14 hours, so that's the minimum, but I'm not sure  
15 how much above that it may be.

16 COMMITTEEMAN MAHONEY: Okay.

17 Thank you.

18 CHAIRMAN WOODBRIDGE: Thank you.

19 B.8. The voting machine shall  
20 provide a standard, publicly documented  
21 printer port or the equivalent, using a  
22 standard communications protocol.

23 MR. SMITH: Yes, sir. It is a  
24 standard serial ports. I don't remember  
25 whether it is 232 or 245 or whatnot, but it is

1 standard -- oh, I'm sorry. In the Edge, I  
2 believe it is a parallel port, a standard LPT.  
3 In the Edge, it is a parallel port. If you  
4 unplug it, the port, you'll see that it is a  
5 parallel port.

6 CHAIRMAN WOODBRIDGE: It also asks  
7 about standard communication protocol.

8 Do you have any idea what the  
9 protocol is?

10 MR. SMITH: I believe it's a  
11 standard LPT.

12 CHAIRMAN WOODBRIDGE: 9. The  
13 VVPRS shall mark the paper record precisely as  
14 indicated by the voter on the DRE and produce  
15 an accurate paper record and corresponding  
16 electronic record of all votes cast.

17 The Committee notes that NJIT did  
18 testify or offer the opinion that it met the  
19 so-called two core requirements of the voter.

20 Do you have any comments?

21 MR. SMITH: No, sir. We have no  
22 further comments.

23 MR. WOODBRIDGE: 10. DRE  
24 electronic ballot image records shall include  
25 all votes cast by the voter, including

1 write-ins and undervotes.

2 10(a). Write-in votes are votes  
3 cast by a voter for an individual not listed  
4 on the ballot as a formal candidate.

5 (b). Undervotes are elective  
6 office and/or public questions on the ballot  
7 for which the voter has not cast a vote.

8 I'm going to ask Mitch if he would  
9 tell us whether or not NJIT tested for  
10 undervotes and overvotes.

11 MR. DARER: Undervotes and  
12 write-ins, yes.

13 CHAIRMAN WOODBRIDGE: I'm sorry?

14 MR. DARER: Undervotes and  
15 write-ins, yes.

16 CHAIRMAN WOODBRIDGE: Okay.

17 Undervotes and write-ins, thank  
18 you very much.

19 Any other comments?

20 MR. SMITH: We rely on NJIT's  
21 testing.

22 CHAIRMAN WOODBRIDGE: I should  
23 mention to the audience or to those who aren't  
24 familiar with this, these machines at one  
25 point in time went through a certification

1 process that specifically asks those questions  
2 vis-a-vis the DRE, so it is something that we  
3 are perhaps a little more familiar with, that  
4 aspect.

5 B.11. An electronic ballot image  
6 record shall have a corresponding paper  
7 record.

8 11.(a). The paper record shall be  
9 printed and the voter shall have the  
10 opportunity to verify the paper record in its  
11 totality at that time prior to the final  
12 electronic record being recorded.

13 (b). The DRE electronic ballot  
14 image record shall correspond to the paper  
15 record in a manner that does not reveal the  
16 voter's identity.

17 (c). The paper record shall  
18 contain all voter selection information stored  
19 in the electronic ballot image record.

20 I note that with regard to 11 per  
21 se, electronic ballot image record,  
22 corresponding to a paper record, that was  
23 noted as Exception No. 2 in the NJIT report.

24 The issue under 11.(a). was also  
25 noted under Exception No. 2, as opposed to

1 Exception No. 3.

2 Exception No. 2 -- no, I'm going  
3 to start with 3 first because that was the  
4 first one.

5 The electronic ballot image  
6 records are saved in the ascending order of  
7 "VoterID" (an index referred to by the  
8 vendor): the "VoterID" is contained in the  
9 barcode of the corresponding paper record.  
10 "VoterID" is the linkage of electronic ballot  
11 image record to the corresponding paper  
12 record. Matching the electronic ballot image  
13 records to the corresponding paper records is  
14 difficult for a large volume of votes.

15 Do you want to respond to that,  
16 first of all?

17 MR. SMITH: Yes.

18 Mr. Chair, while it may be, as  
19 NJIT puts it, difficult, and I know for going  
20 through thousands of records, it is, in fact,  
21 tedious, the fact is we believe we are within  
22 the regulations and that you can indeed match  
23 the paper records to the electronic records.  
24 It's not easy for any system, any clerical  
25 type of thing, whether it's inside the voting

1 process or outside a voting process to cross  
2 tie a thousand records to each other, let's  
3 say, other than the simple exercise of going  
4 through two Excel spreadsheets that are a  
5 thousand lines long and going side by side  
6 with your fingers; or, in this case, with  
7 automated tools. It is tedious. However, it  
8 can be done.

9 CHAIRMAN WOODBRIDGE: Do you have  
10 any idea, you used the number a thousand, how  
11 long it might take to correlate a thousand  
12 voter records?

13 MR. SMITH: No sir.

14 CHAIRMAN WOODBRIDGE: I'm going to  
15 ask NJIT a quick follow-up question.

16 Dr. Shi, perhaps maybe you could  
17 help us here. The exception says that it is  
18 difficult for large volume of records.

19 Do I understand that by  
20 "difficult," you don't mean that it can't be  
21 done, it is just tedious and long -- or is  
22 there any significant opportunity of  
23 introducing any errors in voter accounts if  
24 that happens?

25 PROFESSOR SHI: Yes.



1           In general, you need to scan the  
2 barcode on each paper ballot so that takes  
3 time and effort.

4           And if we have more vote together,  
5 like one side, it will even involve more than  
6 one roller, as we just saw. So probably, it  
7 will be more complicated. It's doable, but  
8 with more complexity, meaning, it may employ  
9 possible risk.

10           Then, I don't know technically,  
11 it's not in the report, but could I say  
12 something in my own view?

13           MR. WOODBRIDGE: Please.

14           PROFESSOR SHI: As a technical  
15 source, I think there is some other way that  
16 can make it much simpler because you see, in  
17 the paper record, you have a barcode, you can  
18 have something. And if that identifier number  
19 is the same as the electronic ballot image,  
20 has the same identifier there, you do not need  
21 to go through everything. And even if  
22 something is lost, it is still possible to  
23 find the correspondence, as long as these two  
24 pair, this pair is still there; that's my  
25 personal view.

1 CHAIRMAN WOODBRIDGE: Okay.

2 Thank you.

3 Do you have any idea how long it  
4 might take for someone to correlate a thousand  
5 votes if one was to attempt to do that?

6 Say, there was a recount on an  
7 election or something of that sort.

8 PROFESSOR SHI: Give me a minute.

9 CHAIRMAN WOODBRIDGE: No problem.

10 MR. DARER: Two points of  
11 reference. It took us about seven hours to do  
12 the tallies on the 1200-vote test.

13 MR. WOODBRIDGE: When you did the  
14 tallies, you cross-correlated the barcodes  
15 to --

16 MR. DARER: Everything, yes.  
17 Everything. And it is a lot more difficult  
18 than on the Advantage in comparable numbers of  
19 votes.

20 MR. WOODBRIDGE: Now, why is it  
21 more difficult on this machine, the Edge,  
22 rather than the Advantage?

23 MR. DARER: I misspoke, it's not  
24 much more difficult than the Advantage.

25 MR. WOODBRIDGE: That's

1 permissible here.

2 MR. DARER: I don't want to say  
3 it's the same.

4 MR. WOODBRIDGE: The record will  
5 reflect the correct information.

6 MR. DARER: Was there still a  
7 question?

8 COMMITTEEMAN FLEMING: My  
9 assumption is that you had difficulty when you  
10 had missing records on the Advantage.

11 In this case, with the Edge, it's  
12 on reel-to-reel so you're assuming you're not  
13 going to lose any records.

14 PROFESSOR SHI: Right.

15 COMMITTEEMAN FLEMING: That's the  
16 difference between the Advantage and the Edge,  
17 you can do it with all the records, but  
18 because of possibly missing a record on the  
19 Advantage, you can have a more difficult or  
20 impossible task to try to match it up,  
21 correct?

22 PROFESSOR SHI: Correct.

23 If you see our corresponding  
24 exception with respect to Advantage and with  
25 respect to the Edge are slightly different in

1 this. We do not mention this one for Edge  
2 because it is reel-to-reel, as you said.

3 CHAIRMAN WOODBRIDGE: Okay.

4 Thank you for the clarification.

5 MR. SMITH: Mr. Chair, if I may  
6 clarify something.

7 CHAIRMAN WOODBRIDGE: Yes, sir.

8 MR. SMITH: I submit that this  
9 exception is moot, while I don't argue with  
10 the times that they've given here. If the  
11 issue is that you have to read the barcode for  
12 every voter, you have to read the barcode for  
13 every voter regardless. The speed of the  
14 recount really is how quickly you can set up  
15 your process and process the tape through,  
16 which is primarily dependent on your ability  
17 to crank the tapes through or the slips and  
18 how fast your barcode software can read the  
19 software.

20 In a recount, you will typically  
21 not go back to cross check and cross back  
22 through all the electronic records.

23 In an audit, that is where you  
24 would do such a thing, but to simply recount  
25 an election, you are going to simply go

1 through the tapes or the slips and see if they  
2 match the electronic record. And I would  
3 submit that would be much more speedy. And  
4 typically you have teams doing this from both  
5 the Democratic and Republican party and  
6 perhaps other parties that are certified in  
7 your state and so it will go much faster.

8 CHAIRMAN WOODBRIDGE: Right.

9 And I believe I had heard, I can't  
10 remember whether it was from the Attorney  
11 General's office or where, but there was some  
12 discussion of doing manual audits of votes  
13 anyhow, so that may eventually be a reality;  
14 but it is my assumption that the vast number  
15 of votes won't require cross correlation if  
16 the vote tallies aren't especially close or  
17 the elections haven't been specially tested.

18 At the top of page 4, Section III.  
19 Design Requirements for a VVPRS. A. Printer.

20 1. The printer shall be designed  
21 to have a sufficient amount of paper, ink,  
22 toner, ribbon or like supply for use in an  
23 election, taking into account an election  
24 district should have at least one voting  
25 machine per 750 registered voters.

1 (a). If any addition or re --  
2 now, let's stop there.

3 That was also the subject of  
4 Exception No. 4, which we may have, in fact,  
5 dealt with a bit already, but for the record,  
6 Exception No. 4 states, Paper replacement is  
7 expected after about 120 votes.

8 Is that correct, 120 votes; is  
9 that typical?

10 MR. SMITH: We believe that number  
11 is a little bit low between typical experience  
12 and believe it is between 175 and 200.

13 CHAIRMAN WOODBRIDGE: So to make a  
14 long story short, we have to replace, with  
15 what we've seen here and what was tested here  
16 at NJIT, if the machine perhaps might service  
17 600 voters, you would have to replace the  
18 roll, at least, maybe three times during the  
19 course of the election?

20 MR. SMITH: Depending upon how you  
21 deploy your polling places and depending upon  
22 how you deploy your DREs, you can avoid that.

23 CHAIRMAN WOODBRIDGE: Could you  
24 elaborate on that?

25 Do you mean, like getting many

1 more DREs or what?

2 My concern is how many times do  
3 you have to replace the roll on the machine  
4 during the course of the election?

5 MR. SMITH: Well, you can avoid  
6 that by deploying a sufficient number of DREs  
7 relative to your expected voter turnout. And  
8 typically, polling places do, as is done here  
9 in Salem County, and it's done across the  
10 country, for instance, in California precincts  
11 you see no fewer than four DREs at a given  
12 polling place.

13 MR. WOODBRIDGE: Let's try this  
14 again.

15 I'm assuming, now, let's take the  
16 scenario where we have one voting machine,  
17 such as we see here, for every 750 voters and  
18 we have a hot election where we get, for the  
19 sake of argument, let's call it a 60 percent  
20 turnout.

21 So in that scenario, you're going  
22 to get whatever 60 percent of 750 is, 400 odd,  
23 it seems to me, if you can only accommodate  
24 120 to 150 to 200 voters per roll, that you're  
25 going to be changing that roll about three

1 times during the course of the election so I  
2 can't imagine a district buying a lot more  
3 machines just so they don't have to change  
4 rolls.

5 It seems to be somewhat  
6 inescapable that you're going to have to  
7 change the rolls at least two or three times  
8 per machine during the course of elections; is  
9 that accurate?

10 MR. SMITH: That's not generally  
11 what we see in practice. The jurisdictions  
12 generally employ enough machines to avoid that  
13 many changes of paper; but do they not change  
14 paper at all, I'm not here to tell you that.  
15 They do change paper, generally not three  
16 times or four times or some great number like  
17 that.

18 CHAIRMAN WOODBRIDGE: So it is  
19 your opinion that changing three or four times  
20 would be unusual per machine?

21 MR. SMITH: That would be unusual  
22 in my experience that the jurisdictions would  
23 deploy such that they would have to do that.

24 CHAIRMAN WOODBRIDGE: I'm going to  
25 ask NJIT if should they care to respond to



1 that. We do have a statement here with  
2 respect to replacement of the roll about every  
3 120 votes.

4 How did you come up with that  
5 number; and, if you have any sense, how many  
6 times do you think it might be necessary to  
7 replace a roll per machine in a typical  
8 14-hour election?

9 MR. DARER: We have two size  
10 rolls. The first size roll was at 300 foot  
11 and that yielded 120 votes of the short  
12 ballot. The longer roll -- do we know what it  
13 yields or we estimated yields? -- we've  
14 calculated that would yield 175 votes of a  
15 short ballot.

16 Does that answer the question?

17 COMMITTEEMAN FLEMING: And that  
18 was doing some random, multiple page or not --

19 MR. DARER: Not multiple.

20 COMMITTEEMAN FLEMING: Multiple  
21 attempts.

22 MR. DARER: Oh, that was. Uh-huh.  
23 Yes.

24 COMMITTEEMAN FLEMING: Okay.

25 One of the questions is that when

1 the paper does run out, the voting stops, I'm  
2 assuming, and you're not going to lose any  
3 votes?

4 MR. ROMEI: That's right.

5 COMMITTEEMAN FLEMING: Does it,  
6 like the other machine, calculate that it  
7 doesn't have enough paper to finish a vote.

8 MR. ROMEI: It knows before it  
9 runs out, so it will not let the next voter  
10 come into that red zone.

11 CHAIRMAN WOODBRIDGE: Okay.

12 I see by the clock that's not on  
13 the wall that it's about the 12:30. Why don't  
14 we take a one-hour break at this point like we  
15 did yesterday and reconvene back here promptly  
16 at 1:30.

17 I think we'll try to really start  
18 off at 1:30 so that we can move through this  
19 at a brisker fashion because we are a little  
20 bit behind where we stopped yesterday, which  
21 was on page 5, rather than page 4, so I look  
22 forward to seeing you in an hour and we'll  
23 continue at that point with the issue on  
24 III. Design Requirements for a VPPRS. A.  
25 Printer. 1.(a). and start from there.

1 Thank you.

2 (Luncheon recess: 12:29 p.m. to  
3 1:41 p.m.)

4 CHAIRMAN WOODBRIDGE: Good  
5 afternoon. We're going to go back on the  
6 record again.

7 Ellen Marie, are you all set?

8 We had stopped at Section III.A.1.  
9 We're going to take up Section III.A.1(a).,  
10 which is noted as one of the exceptions of  
11 NJIT and it reads as follows, If any addition  
12 or replacement of paper, ink, toner, ribbon or  
13 other like supply is required, it shall be  
14 done with minimal disruption to voting and  
15 without circumvention of the security features  
16 of the printer and storage unit, which protect  
17 cast ballots and the secrecy of the vote.

18 For the record, we did have a  
19 demonstration of two cast ballots, which show  
20 how the ribbon is placed, one entailed  
21 removing the cartridge entirely, the other one  
22 entailed taking off part of the cover and  
23 manually replacing the paper roll.

24 Do we have any further comments on  
25 the effectiveness -- let me just read to you

1 what the NJIT comments were. They may have  
2 been superseded by some of the discussions  
3 today, but the comment with regard to this  
4 particular section was that the printed paper  
5 records are accessible during the paper change  
6 process.

7 Now, without putting words in  
8 anybody's mouth, my understanding is NJIT was  
9 provided with three machines and three  
10 different cartridges and there really wasn't  
11 much of an option to switch out cartridges.

12 So I understand that NJIT believed  
13 that the technique to follow was to place the  
14 rolls manually; is that a fair statement,  
15 Mitch?

16 MR. DARER: Yes.

17 CHAIRMAN WOODBRIDGE: Thank you.

18 Mr. Smith?

19 MR. SMITH: I have no further  
20 comment, other than, once again, we recommend,  
21 we remove the cartridge as a whole and we  
22 found out through a short conversation that I  
23 had with one of the members of the Attorney  
24 General's staff that through their extensive  
25 and thorough research, they found the State of

1 Nevada, that is also a Sequoia customer, state  
2 wide, in fact, does also replace the entire  
3 unit when it becomes full or emptied,  
4 depending on how you look at it.

5 I believe the case with the State  
6 of California is that they swap the entire  
7 unit, rather than remove the roll, as they do  
8 in the State of Illinois.

9 CHAIRMAN WOODBRIDGE: Does anybody  
10 else on the Committee have any comments or  
11 questions in this particular regard?

12 (No response.)

13 CHAIRMAN WOODBRIDGE: It appears  
14 that we sort of covered that earlier today.

15 I had a request before we went  
16 into our luncheon recess to determine when the  
17 hearings are effectively closed for the  
18 purposes of receiving additional input and in  
19 terms of paper supplements.

20 Penny, I know, is going to give us  
21 her written comments by Friday. And I believe  
22 a Public Advocate has already given copies of  
23 his exhibits.

24 So to be fair to everybody, Friday  
25 at 5:00 will be the deadline for any

1 additional information to be provided to this  
2 committee and to be put on the record.

3 III.A.2. The VVPRS shall have a  
4 low-paper indicator that will allow for the  
5 timely addition of paper so that each voter  
6 can fully verify, without disruption, all of  
7 his or her ballot selections.

8 MR. SMITH: And as we discussed  
9 earlier today and on the Advantage yesterday,  
10 there is a low-paper sensor that provides for  
11 that.

12 CHAIRMAN WOODBRIDGE: The  
13 Advantage or the Edge?

14 MR. SMITH: Both.

15 CHAIRMAN WOODBRIDGE: Okay.

16 MR. SMITH: As we discussed  
17 yesterday with the Advantage and a little  
18 earlier today with the Edge, the low-paper  
19 sensor is there, which, like the Advantage, I  
20 believe is an optical sensor that will detect  
21 when there is enough paper to ensure that the  
22 voter in the booth can complete and cast their  
23 vote, even to the three times, with vote  
24 spoilage and then it will disallow any further  
25 voting.

1                   CHAIRMAN WOODBRIDGE: So tell me  
2 if I'm wrong, it would be difficult, if not  
3 impossible for a voter to be interrupted in  
4 the course of voting, is that correct, by a  
5 paper change?

6                   MR. SMITH: That is correct. It  
7 will always be between voters.

8                   CHAIRMAN WOODBRIDGE: Okay.

9                   Thank you.

10                  Are there any other questions of  
11 the Committee?

12                  Section III.A.3., and I note here  
13 that there was a comment by NJIT on Section  
14 III.A.3., which reads as follows, The printer  
15 shall be secured by security seals or locking  
16 mechanisms to prevent tampering. The printer  
17 shall be accessed only by those election  
18 officials authorized by the county  
19 commissioner of registration.

20                  And the comment by NJIT was: The  
21 storage reel of printed paper records is  
22 accessible upon removing the printer cover.

23                  My assumption is that this comment  
24 might be superseded by the additional comments  
25 from NJIT and our understanding that, in fact,

1 the cartridge may be removed as a whole and  
2 replaced with additional cartridges; is that  
3 correct?

4 MR. SMITH: That's correct, sir.

5 And, also, I draw your attention  
6 to the second portion of that clause, The  
7 printer shall be accessed only by those  
8 election officials authorized by the county  
9 commissioner of registration. And that,  
10 indeed, is allowed with proper jurisdictional  
11 procedures.

12 CHAIRMAN WOODBRIDGE: Does NJIT  
13 have any comments on this section?

14 (No response.)

15 CHAIRMAN WOODBRIDGE: Thank you.

16 Section Roman Numeral III.A.4.,  
17 The VVPRS shall be capable of showing the  
18 information on the paper record in a font size  
19 of at least 3.0 mm and should be capable of  
20 showing the information in at least two font  
21 ranges, 3.0-4.0 mm and 6.3-9.0 mm, under the  
22 control of the voter or poll worker. This  
23 criteria can be met by providing a  
24 magnification device with the VVPRS.

25 MR. SMITH: And, yes, sir, we do



1 utilize the magnification devices, which we've  
2 done to meet this requirement.

3 CHAIRMAN WOODBRIDGE: What font  
4 sizes do you have available for printing?

5 MR. SMITH: You can set, when you  
6 initialize the election, fonts within these  
7 size ranges. However, to have the full  
8 control over -- from the voter and from a poll  
9 worker aspect in the regulations, you need to  
10 use the magnifying glass.

11 CHAIRMAN WOODBRIDGE: Okay.

12 Question: Is this thermal paper  
13 that it prints on?

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

15 CHAIRMAN WOODBRIDGE: So does it  
16 have lot like a dot matrix type of printing  
17 head on it?

18 MR. SMITH: Similar. Yes, sir.

19 CHAIRMAN WOODBRIDGE: So can you  
20 effectively adjust the font size by changing  
21 the font that you put in the machine; is that  
22 how that works?

23 MR. SMITH: Yes, sir, you do; but  
24 to put it in the machine, you do it as you  
25 initialize the election, not between voters or

1 on the fly during election day.

2 CHAIRMAN WOODBRIDGE: So you can  
3 choose -- does the machine come preloaded with  
4 different fonts you can select from?

5 MR. SMITH: I believe it's one  
6 font, but multiple sizes.

7 CHAIRMAN WOODBRIDGE: So you can  
8 adjust the size of the print, but the font  
9 basically aims to stay the same?

10 MR. SMITH: Yes. We can look at  
11 it, but I think on the Edge system it is a  
12 sans-serif font.

13 (Pause.)

14 CHAIRMAN WOODBRIDGE: Back on the  
15 record.

16 The record should reflect that  
17 during a brief break here, we were provided  
18 with a copy of one of the paper ballots.

19 Is this the paper ballot you were  
20 demonstrating earlier this morning?

21 MR. SMITH: Yes, sir; it is.

22 CHAIRMAN WOODBRIDGE: Section  
23 III.B. Paper Record Display Unit.

24 Paragraph 1 reads, The paper  
25 record shall be displayed in a way that allows

1 the voter to privately and independently  
2 inspect it.

3 This was cited as one of the --  
4 exceptions, Exception No. 1 of the NJIT  
5 report. It was stated, An observer may be  
6 able to read the screen or paper record if he  
7 or she stands behind the voter.

8 I am going to ask NJIT, is that  
9 still the same comment; is this similar to  
10 what we talked about this morning?

11 MR. DARER: Yes.

12 CHAIRMAN WOODBRIDGE: Thank you.

13 Mr. Smith, do you care to comment  
14 upon the compliance of the machine?

15 MR. SMITH: Mr. Chairman, I stand  
16 by my earlier comments that only if someone is  
17 allowed to get immediately behind the voter  
18 and peer behind them from different angles can  
19 they accurately view the person's ballot.  
20 This is not a practiced way to spy on  
21 someone's votes.

22 CHAIRMAN WOODBRIDGE: And I think  
23 you also testified that, to the best of your  
24 knowledge, this is configured in the same way  
25 as the unit used in Salem County.

1 MR. SMITH: Yes, it is the same.

2 CHAIRMAN WOODBRIDGE: Section  
3 III.B.2. If the paper record cannot be viewed  
4 entirely in the display unit at one time, the  
5 voter shall have the opportunity to verify the  
6 entire paper record prior to the electronic or  
7 the paper ballot being stored and recorded.

8 MR. SMITH: In this case,  
9 Mr. Chairman, the touch screen will display a  
10 message to the voter and provide them areas to  
11 touch; that, basically, instructs them, Here  
12 is your first page and to view page 2 of 2,  
13 press this button.

14 CHAIRMAN WOODBRIDGE: Section  
15 III.B.3., The display unit shall have a  
16 protective covering, which shall be  
17 transparent and shall not obscure the voter's  
18 view of the paper record. This covering shall  
19 be in such condition that it can be made  
20 transparent by ordinary cleaning of its  
21 exposed surface.

22 MR. SMITH: Mr. Chairman, the unit  
23 is covered and the display window, as well,  
24 with a Plexiglass type of plastic that can be  
25 cleaned with ordinary Windex type window

1 cleaners and stuff.

2 CHAIRMAN WOODBRIDGE: It should be  
3 noted the chair actually knocked on the window  
4 and it did appear to be transparent and some  
5 sort of substantive material.

6 Page 5, C. Paper. 1. Any paper  
7 record produced by a VVPRS shall be readable  
8 by voters and election officials.

9 MR. SMITH: There, Mr. Chairman,  
10 we submitted samples from this morning's  
11 demonstration, you can see for yourself that  
12 it is readable.

13 CHAIRMAN WOODBRIDGE: And perhaps  
14 it might be worth restating again that the  
15 specimen that we have been provided as a paper  
16 trail includes the statement at the top,  
17 quote, Official General Election Test - 2,  
18 unquote, and this relates to the issue of  
19 whether or not the paper trail identifies the  
20 nature of the election that it is providing a  
21 trail for. CHAIRMAN WOODBRIDGE: C.2.

22 All paper records shall be stored  
23 in accordance with vendor specifications.

24 Does the vendor provide  
25 specifications with regard to storing it in

1 the record?

2 (Reporter requested that Mr. Smith  
3 go to the podium to speak where he can be  
4 better heard.)

5 CHAIRMAN WOODBRIDGE: Let the  
6 record reflect a very wily exchange just took  
7 place.

8 Mr. Smith, do you want to try?

9 MR. SMITH: We provide thermal  
10 paper storage specifications requirements in  
11 our technical manuals. They call for storage  
12 in the dark with reasonably ambient heat and  
13 humidity, as you would find in a warehouse or  
14 situations that would not be absolutely  
15 perfect.

16 CHAIRMAN WOODBRIDGE: I should  
17 interject and note that the members of the  
18 Committee have been provided with copious  
19 copies of materials.

20 I am going to impose on our court  
21 reporter when this is over to indicate on the  
22 record what we've received so it is part of  
23 the record of this meeting.

24 We don't have to do it now.

25 At the end, we will just make a

1 short attachment so people are aware of what  
2 we have.

3 I am going to ask that we move  
4 these materials over to the side of this  
5 table.

6 CHAIRMAN WOODBRIDGE: Okay.

7 Section C.

8 We're still on Paper.

9 3. If stored in accordance with  
10 vendor specifications, the paper used to  
11 produce a paper record shall be readable for a  
12 period of at least two years after the  
13 election in which it is used.

14 MR. SMITH: Our official paper  
15 vendor asserts that under storage conditions,  
16 as we talked about today, it is readable for  
17 seven years.

18 CHAIRMAN WOODBRIDGE: Now, is this  
19 the same type of paper that we discussed  
20 yesterday with regard to the Advantage?

21 MR. SMITH: It is similar.

22 However, I believe that Seiko, the  
23 manufacturer of the Advantage printer directed  
24 that -- Seiko, the manufacturer of the printer  
25 on the Advantage has their own paper facility

1 or some approved vendors that are different  
2 from the thermal paper roll that you find on  
3 the Edge, which is actually more widely  
4 available.

5 We have certain grades of paper  
6 and certain features on paper, as well, that  
7 should meet the specific requirements.

8 CHAIRMAN WOODBRIDGE: Is it your  
9 testimony that it is readable for, at least, a  
10 period of two years under normal storage  
11 conditions; is that right?

12 MR. SMITH: Yes, sir. I assert  
13 that it meets the specifications.

14 CHAIRMAN WOODBRIDGE: Section III,  
15 Design Requirements for a VVPRS, (D), Paper  
16 Record Storage Unit.

17 1. Security protections  
18 including, but not limited to, security seals  
19 or locking mechanisms, shall be built into the  
20 Storage Unit to prevent tampering at all  
21 times, including pre-election, election day,  
22 and post-election day. The Attorney General,  
23 through the Department of Law and Public  
24 Safety, will issue chain of custody guidelines  
25 regarding the Storage Unit.



1                   Now, during one of the two  
2 demonstrations this morning, I believe you  
3 showed us one of the cartridges and you showed  
4 us one place where it is sealed in a place on  
5 the cartridge unit.

6                   Is that to keep the cover on the  
7 cartridge unit?

8                   MR. SMITH: Yes, sir; it is.

9                   CHAIRMAN WOODBRIDGE: Can you  
10 describe whatever other seals or locking  
11 mechanisms you have on that unit?

12                  MR. SMITH: We recommend that the  
13 jurisdictions place the tamper-evident tape  
14 seal over the plugs for the cable; that is,  
15 where the cable plugs into the base of the  
16 unit.

17                  I would have to look at the exact  
18 units there, but we can also place a  
19 tamper-evident seal or lock at the top of the  
20 rail. The rail has, at least, a half an inch  
21 or more excess clearance from the top of the  
22 printer unit. And if there is not one already  
23 there, although likely it may be, you could  
24 certainly put one there, as well.

25                  So there are safeguards that you

1 can use to prevent someone from opening the  
2 cartridge, to prevent someone from removing  
3 the cartridge and someone from removing the  
4 cable link.

5 CHAIRMAN WOODBRIDGE: In fact, let  
6 me indicate that NJIT had also noted with  
7 regard to this particular section that, quote,  
8 the storage reel of printed paper records is  
9 accessible upon removing the printer cover,  
10 unquote.

11 I assume that this relates to our  
12 previous discussions about the unavailability  
13 of the extra cartridges and the assumption  
14 that the rolls are normally manually changed  
15 during the paper-change procedures; is that  
16 correct, Mitch?

17 MR. DARER: Yes, it is.

18 CHAIRMAN WOODBRIDGE: Thank you.

19 Does the Committee have any  
20 questions on that section?

21 COMMITTEEMAN MAHONEY: Not at this  
22 time.

23 CHAIRMAN WOODBRIDGE: Moving on to  
24 Section IV, Procedural and Usability  
25 Requirements; A, Paper Records; 1, the paper

1 record shall include identification of the  
2 particular election, the election district and  
3 the voting machine.

4           Again, I take judicial notice of  
5 that, that we do have a record here, at least,  
6 a simulated record that identifies it as  
7 being, Official General Election Test - 2,  
8 identifies the precinct, identifies the  
9 polling place. It's not clear if this  
10 identifies the voting machine.

11           Do you identify the voting machine  
12 on the record?

13           MR. SMITH: Yes, sir. I can show  
14 you where that is.

15           CHAIRMAN WOODBRIDGE: Could you  
16 please do that.

17           (Mr. Smith indicated.)

18           CHAIRMAN WOODBRIDGE: Mr. Smith  
19 pointed out to the Committee that on the  
20 accepted record, right ahead of the barcode is  
21 a number S, as in Sam, N, as November, 18558,  
22 so it is SN18558, which you represent is, in  
23 fact, the identification number of the voting  
24 machine; is that correct?

25           MR. SMITH: That is correct; that

1 is the serial number.

2 CHAIRMAN WOODBRIDGE: So if I got  
3 a paper record from a different machine, that  
4 number would be different?

5 MR. SMITH: From a different  
6 machine, yes, it would be.

7 CHAIRMAN WOODBRIDGE: Thank you.  
8 Mr. Mahoney.

9 COMMITTEEMAN MAHONEY: Yes.  
10 How do you distinguish between the  
11 spoiled ballot or -- I mean, let me say it  
12 this way.

13 How do you take the spoiled  
14 ballots and match them to a ballot that is  
15 counted since on the spoil ballots, there is  
16 no number?

17 Is that because it is a  
18 reel-to-reel system and you just go down and  
19 find the lower one with the machine number?

20 MR. SMITH: You can certainly do  
21 that.

22 COMMITTEEMAN MAHONEY: Is there  
23 any other way on the voided or spoiled ballots  
24 to tell which machine they came from?

25 MR. SMITH: No, sir; but

1 typically, you're not going to break the tape.

2 COMMITTEEMAN MAHONEY: So what  
3 you're saying is since it is reel to reel, you  
4 would see that the first two votes, they're  
5 voided and the last one was accepted and that  
6 would give it the number?

7 MR. SMITH: Yes, sir.

8 COMMITTEEMAN MAHONEY: Thank you.

9 CHAIRMAN WOODBRIDGE: And if there  
10 are no further questions on that point, let's  
11 move on.

12 Two, the paper record shall  
13 include a barcode that contains the  
14 human-readable contents (shorthand is  
15 acceptable) of the paper record.

16 And I'm going to ask if this  
17 (indicated) -- just for the record, what I'm  
18 holding up is the end of the printout of the  
19 paper ballot -- is the barcode?

20 MR. SMITH: Yes, sir; it is.

21 CHAIRMAN WOODBRIDGE: Can you tell  
22 us what information is in that barcode?

23 MR. SMITH: Yes.

24 The information that you can read  
25 in human-readable format on the tape is the

1 date of election, the machine number that took  
2 the vote and the number of choices, which  
3 resides in between on the tape. Those three  
4 things are all present in the barcode, along  
5 with a digital signature of the information  
6 from the voter's choices.

7 CHAIRMAN WOODBRIDGE: Looking at  
8 the ballot here, is there anything in the  
9 paper ballot that I'm looking at -- and I'm  
10 looking from the top of the accepted one down  
11 to the barcode -- is there any information in  
12 that paper ballot that is not included in the  
13 barcode?

14 MR. SMITH: I would have to take a  
15 look at it.

16 (Pause.)

17 CHAIRMAN WOODBRIDGE: Mr. Smith  
18 has indicated that the first run is a sample  
19 ballot and that everything that we indicated  
20 on the sample ballot will be in the barcode  
21 with the exception of a word "end," e-n-d and  
22 perhaps with the exception of the word  
23 "pre-lat paper record."

24 IV.A.2.(a).

25 The barcode shall use an industry

1 standard format and shall be able to be read  
2 using readily available commercial technology.

3 MR. SMITH: Mr. Chairman, the  
4 industry standard format is pdf.

5 CHAIRMAN WOODBRIDGE: Could you  
6 give that back to me again?

7 MR. SMITH: Pdf, portal document  
8 format 417, which is an industry standard,  
9 readily available commercial technology, which  
10 can be read by a variety of scanners  
11 commercially available.

12 CHAIRMAN WOODBRIDGE: This is the  
13 same standard as with the Advantage we saw  
14 yesterday?

15 MR. SMITH: Yes, sir; it is.

16 CHAIRMAN WOODBRIDGE: Section B.  
17 If the corresponding electronic  
18 record contains a digital signature, the  
19 digital signature shall be included in the  
20 barcode on the paper record.

21 MR. SMITH: Yes, sir.

22 The SHA-256 hash of the voter's  
23 choice set is included in the barcode.

24 CHAIRMAN WOODBRIDGE: For the  
25 benefit of our court reporter, could you

1 repeat that again for the record?

2 MR. SMITH: The hash of the  
3 voter's choice set is defined by the SHA-256  
4 algorithm.

5 CHAIRMAN WOODBRIDGE: And the one  
6 under Section B, a digital signature is extra  
7 data appended to an electronic document, which  
8 identifies and authenticates the sender and  
9 message data using public key encryption, or  
10 other means of approved by LPS.

11 I'm guessing the hash is still the  
12 same?

13 MR. SMITH: That is correct.

14 CHAIRMAN WOODBRIDGE: It is the  
15 same proposed system?

16 MR. SMITH: Yes, sir.

17 CHAIRMAN WOODBRIDGE: C, the  
18 barcode shall not contain any information  
19 other than an accurate reflection of the paper  
20 record's human-readable content, error  
21 correcting codes, and digital signature  
22 information.

23 We talked about what it includes,  
24 but are there any encrypting, error-correcting  
25 codes?



1           MR. SMITH: Yes, there are that  
2 are defined within the pdf-417 standard.

3           CHAIRMAN WOODBRIDGE: Are there  
4 checks; what kind of error-correcting codes do  
5 you have in there?

6           MR. SMITH: There are codes  
7 associated with how the barcode is actually  
8 drawn on the paper to help prevent against  
9 stray marks or anything in the barcode field  
10 destroying your ability to read it.

11           I'm certainly not an expert on  
12 that, but that's the best information I can  
13 give you based on my understanding of those  
14 codes.

15           CHAIRMAN WOODBRIDGE: I'm jumping  
16 ahead pretty fast in response to the question.  
17 It says, quote, the barcode shall not contain  
18 any information other than that an accurate  
19 reflection of the paper record's  
20 human-readable content, error correcting  
21 codes, and digital signature information,  
22 unquote.

23           I guess another way of asking is,  
24 is there anything else in the barcode other  
25 than those three items?

1 MR. SMITH: No, sir.

2 CHAIRMAN WOODBRIDGE: The next  
3 issue relates to a "Cut and Drop" Method,  
4 which is not relevant to this particular  
5 machine so I'm going to skip paragraph 3.

6 Going on to paragraph 4, paragraph  
7 4 says, The image created on the paper record  
8 shall include every contest that is displayed  
9 to the voter on the DRE, including write-ins  
10 and undervotes.

11 On the demonstration, it appeared  
12 that what you showed us on the screen appeared  
13 on the ballot, but is that always the case?

14 MR. SMITH: Yes, sir; it is.

15 CHAIRMAN WOODBRIDGE: Paragraph 5,  
16 the paper record shall be created such that  
17 its contents are machine readable.

18 Paragraph 6, the paper record  
19 shall contain error-correcting codes for the  
20 purpose of detecting read errors and for  
21 preventing other markings on the paper record  
22 from being misinterpreted when the paper  
23 record is machine read.

24 6(a) goes on to explain that a  
25 read error is a separate code or piece of data

1 that can be used to indicate whether the data  
2 printed on the paper record is different from  
3 the data created on the electronic record.

4 So going back to the  
5 error-correcting codes, Mr. Smith, would you  
6 explain again what error correcting codes you  
7 have; and, is it sufficient to indicate that  
8 the data is different or the same as the paper  
9 record versus the electronic record?

10 MR. SMITH: Yes.

11 The error corrected codes are the  
12 same as in the pdf-417 barcode standard that  
13 we employ on the paper tape and they are  
14 indeed preceded with other markings providing  
15 for the misinterpretation of stray marks and  
16 to ensure that what you read is indeed the  
17 proper representation of the barcode.

18 CHAIRMAN WOODBRIDGE: Let me make  
19 sure I understand the answer to the question.  
20 Let me just cameo part of it. It says, quote,  
21 the paper record shall contain  
22 error-correcting codes for the purpose of  
23 detecting read errors and for the prevention  
24 of other markings on the paper record from  
25 being misinterpreted when the paper record is

1 machine read.

2 Now, really that contains two  
3 sections. The first one is the paper record  
4 shall contain error-correcting codes for the  
5 purpose of detecting read errors.

6 MR. SMITH: And I will say, we see  
7 barcodes on soup cans and they're everywhere.  
8 There is one on the bottom of this laptop. It  
9 always starts and ends with certain bars. So  
10 those are the bars that say, Here I am, I'm a  
11 barcode and here is how I can be read and what  
12 is in between me is a specific barcode so you  
13 can detect it and actually read it. That also  
14 prevents -- because those are special, it  
15 prevents other stray marks on the paper from  
16 being interpreted as a barcode. And because  
17 there are check sums and things within the  
18 barcode itself, it ensures that if someone  
19 draws a thin line in the middle of the  
20 barcode, it is not going to be picked up and  
21 read as 104 instead of 105. Those are all the  
22 standard barcodes, 309128, Office of  
23 International Standards For Barcodes.

24 Thank you.

25 CHAIRMAN WOODBRIDGE: Does the

1 Committee have any other questions on error  
2 reading or barcodes?

3 Let's move on to Section B, DRE  
4 Electronic Records.

5 I will make a record, that there  
6 was an Exception No. 3 in regards to this  
7 issue.

8 The section of the criteria reads  
9 as follows: The electronic ballot image  
10 record and paper records shall be linked by  
11 including unique identifiers so that an  
12 individual paper record can be identified with  
13 its corresponding electronic record. Unique  
14 identifiers are tools that will allow LPS to  
15 measure the reliability and accuracy of the  
16 voting system, as necessary. The electronic  
17 ballot image and the paper record shall not  
18 reveal the identity of the voter.

19 The comment from NJIT was, as  
20 follows: The electronic ballot image records  
21 are saved in the ascending order of "VoterId"  
22 (an index referred by the vendor): The  
23 "VoterId" is contained in the barcode of the  
24 corresponding paper record. "VoterId" is the  
25 linkage of the electronic ballot image record

1 to the corresponding paper record. Matching  
2 the electronic ballot image records to the  
3 corresponding paper records is difficult for a  
4 large volume of votes.

5 And I'm going to ask NJIT.

6 Is that still the same comment;  
7 the same discussion we had earlier this  
8 morning?

9 MR. DARER: Yes.

10 CHAIRMAN WOODBRIDGE: Thank you.

11 Mr. Smith, would you care to  
12 respond to that?

13 MR. SMITH: Mr. Chair, likewise, I  
14 stand by the earlier statements that while it  
15 is tedious, there is nothing that prevents it  
16 from being done; thus, we are inside the  
17 regulation that the plan gives us.

18 CHAIRMAN WOODBRIDGE: Understood.

19 B.2, the DRE should generate and  
20 store a digital signature for each electronic  
21 record.

22 NJIT provided Exception No. 7,  
23 which reads as follows: The DRE does not  
24 generate a digital signature for each  
25 electronic record (electronic ballot image

1 record) of an accepted paper record. It does  
2 generate a digital signature for the entire  
3 set of electronic records (electronic ballot  
4 image records); this is calculated on the  
5 entire set of electronic records without their  
6 associated digital signatures.

7 MR. SMITH: Mr. Chairman, as we  
8 pointed out, this clause and regulation is  
9 prefaced by a "should."

10 So this is a "should" requirement.  
11 It is not a "mandatory" requirement. We take  
12 exception to the fact that it is an exception,  
13 although we do not disagree with NJIT's  
14 finding.

15 We do save the electronic  
16 signature or digital signature of the  
17 electronic records, as a whole, when polls are  
18 closed; but this is a "should" requirement,  
19 not "mandatory" requirement.

20 CHAIRMAN WOODBRIDGE: Let me take  
21 it one step further.

22 If the Committee were to find that  
23 it would be desirable to ensure there is a  
24 digital signature for each electronic record,  
25 is that something you could do?

1 MR. SMITH: Yes, sir. We can do  
2 it.

3 CHAIRMAN WOODBRIDGE: I think you  
4 testified yesterday that for the Advantage, it  
5 is available for that system.

6 MR. SMITH: For the Advantage, it  
7 is in testing, as I testified to yesterday.

8 CHAIRMAN WOODBRIDGE: Is it in  
9 testing at this state for the Edge machine?

10 MR. SMITH: No, not for the Edge  
11 machine.

12 CHAIRMAN WOODBRIDGE: Does the  
13 Committee have any additional questions on  
14 digital signature?

15 (No response.)

16 CHAIRMAN WOODBRIDGE: All right.

17 B. DRE Electronic Records, 3, the  
18 electronic ballot image records shall be able  
19 to be exported for auditing or analysis or  
20 standards-based and/or COTS (commercial  
21 off-the-shelf) information technology  
22 computing.

23 Could you respond to that, Mr.  
24 Smith?

25 MR. SMITH: Yes, sir.



1           WinEDS is a totally certified and  
2 WinEDS system, for which you can use to get  
3 the ballot images out of the Edge system.

4           It is also allowable through the  
5 Edge device that you can attach a printer to  
6 the back and using menu commands have it print  
7 out the ballot images on paper.

8           COMMITTEEMAN FLEMING: That is, if  
9 a second printer in place?

10          MR. SMITH: Yes, sir.

11          COMMITTEEMAN FLEMING: So there is  
12 another port?

13          MR. SMITH: I believe you can  
14 utilize a second port that is in the back. I  
15 am not entirely versed in that.

16          CHAIRMAN WOODBRIDGE: Section A  
17 underneath there, says, The exported  
18 electronic ballot image records shall be in a  
19 publicly available, non-proprietary format.

20          MR. SMITH: They are available in  
21 txt files, simple text files.

22          CHAIRMAN WOODBRIDGE: The top of  
23 page 7, is the section, B.3.(b).

24          The records should -- and I note  
25 it is also the subject of an exception by

1 NJIT. And that portion reads, The records  
2 should be exported with a digital signature,  
3 which shall be calculated on the entire set of  
4 electronic records and their associated  
5 digital signatures.

6 The comments from NJIT read, The  
7 DRE does not generate a digital signature for  
8 each electronic record of an accepted paper  
9 record. It does generate a digital signature  
10 for the entire set of electronic records.  
11 This is calculated on the entire set of  
12 electronic records without their associated  
13 digital signatures.

14 MR. SMITH: I once again want to  
15 state this is a reference to "should," not  
16 "mandatory"; however, we did comply with it.

17 CHAIRMAN WOODBRIDGE: Does NJIT  
18 have any comments or elaborations on this  
19 issue.

20 MR. DARER: No. It's the same  
21 discussion, as mentioned before.

22 CHAIRMAN WOODBRIDGE: Okay.

23 Thank you.

24 Does the Committee have any other  
25 comments on this issue?

1 B. DRE Electronic Records; 3(c).

2 The voting system vendor shall  
3 provide documentation about the structure of  
4 the exported ballot image records and how  
5 think shall be read and processed by software.

6 Did you indicate they were txt  
7 files -- is that right? -- or pdf?

8 MR. SMITH: They are txt files and  
9 we provided that information.

10 CHAIRMAN WOODBRIDGE: And you  
11 provided that information.

12 Is it, by chance, in part of the  
13 that large pile of documents?

14 MR. SMITH: Sir, I am not sure of  
15 what is part of your large pile of documents  
16 so I can't answer that.

17 CHAIRMAN WOODBRIDGE: But you do  
18 have documentation?

19 MR. SMITH: That is correct. We  
20 have already provided that to the Attorney  
21 General's office.

22 CHAIRMAN WOODBRIDGE: Okay.

23 Section D, The voting system  
24 vendor shall provide a software program that  
25 will display the exported ballot image records

1 and that may include other capabilities; such  
2 as, providing vote tallies and indications of  
3 undervotes.

4 MR. SMITH: Yes, sir.

5 As I mentioned earlier, the  
6 WinEDS, the election management software.

7 CHAIRMAN WOODBRIDGE: I believe,  
8 I'm correct, I think the Committee has  
9 actually seen the WinEDS program a couple of  
10 years ago.

11 MR. SMITH: Yes, sir.

12 CHAIRMAN WOODBRIDGE: Section E,  
13 The voting system vendor shall provide full  
14 documentation of procedures for exporting  
15 electronic ballot image records and  
16 reconciling those records within the paper  
17 records.

18 MR. SMITH: Yes, sir. We have  
19 provided those.

20 CHAIRMAN WOODBRIDGE: Okay.

21 The next section, C. Voting with a  
22 VVPRS; 1. LPS shall promulgate for voters  
23 instructions on how to use the VVPRS.

24 (a), The VVPRS vendors shall  
25 provide, in plain language, any reference

1 material requested by LPS to aid in the  
2 preparation of VVPRS instructions. These  
3 instructions shall be issued to each county  
4 board of election for board-worker training.

5 I believe some of the materials  
6 you provided, in fact, do that; is that  
7 correct?

8 MR. SMITH: That is correct. We  
9 provided board-worker operational manuals,  
10 machine manuals and the like.

11 CHAIRMAN WOODBRIDGE: I believe I  
12 saw one of those in the materials that was  
13 given to us.

14 (b) Instructions for use of a  
15 VVPRS shall be made available prior to an  
16 election on the Division of Elections' website  
17 and shall be available to the voter at the  
18 polling place on an election day.

19 I guess that is really up to the  
20 Division of Elections.

21 (c) Prior to an election, the  
22 county commissioners of registration will  
23 provide demonstration machines at convenient  
24 locations throughout the county for voter  
25 education purposes.

1                   And I'll ask Mr. Smith, can these  
2 machines be set up for demonstration purposes?

3                   MR. SMITH: Yes, sir; they can,  
4 just as we saw here.

5                   CHAIRMAN WOODBRIDGE: Is that the  
6 only way that a voter gets to be trained on  
7 these machines?

8                   MR. SMITH: That's really up to  
9 the jurisdiction, sir. We can certainly help  
10 them provide from the warehouse inventory  
11 equipment for demonstration purposes. How the  
12 jurisdiction uses it, I've seen many different  
13 ways.

14                  CHAIRMAN WOODBRIDGE: Do you  
15 provide any host materials or any additional  
16 material with regard to basic instructions?

17                  MR. SMITH: We do provide basic  
18 materials. However, the counties across the  
19 country will take our basic materials and then  
20 transform them in many cases and add to them  
21 to comply with state laws, local customs or  
22 their laws or traditions so it suits their  
23 needs.

24                  CHAIRMAN WOODBRIDGE: (d) The  
25 instructions for performing the verification

1 process shall be made available to the voter  
2 on a location inside the voting machine.  
3 Where feasible, the instructions shall also be  
4 on the machine ballot face.

5 MR. SMITH: Mr. Chairman, if  
6 you'll notice, you can see it from where  
7 you're sitting. On the right hand side of the  
8 Edge, there is a pocket, jurisdiction pocket  
9 in place, instruction materials in those  
10 pockets, foreign language voting instructions;  
11 and, thus, we comply with this regulation.

12 CHAIRMAN WOODBRIDGE: I think it's  
13 an observation maybe, too, that the screens  
14 also include instructions on a step-by-step  
15 basis as one goes through the process; is that  
16 correct?

17 MR. SMITH: That is correct. And  
18 those messages are configurable by  
19 jurisdiction.

20 CHAIRMAN WOODBRIDGE: Okay.

21 C. Voting with a VVPRs, paragraph  
22 2, Voter privacy shall be preserved during the  
23 process of recording, verifying and auditing  
24 ballot selections. This includes a voter who  
25 uses an audio-voting device. Voters using an

1 audio-voting device shall also be able to  
2 verify votes privately and independently.

3 We heard today a speaking  
4 demonstration with the audio device.

5 Now, when an individual uses it,  
6 how do they use it so that it's done  
7 privately?

8 MR. SMITH: Well, sir, once the  
9 voter, if they require assistance, gets  
10 started, and gets into the ballots, they need  
11 no further assistance from a poll worker or an  
12 assistant that they bring.

13 CHAIRMAN WOODBRIDGE: What is to  
14 prevent the public from hearing what the  
15 individual hears?

16 MR. SMITH: We supply headphones  
17 to be plugged into the audio headset box.

18 CHAIRMAN WOODBRIDGE: And it is  
19 your contention that once that person, who may  
20 be visually impaired goes in there, that  
21 person doesn't need any further assistance; is  
22 that fair?

23 MR. SMITH: That is correct. They  
24 can get help from the help menu and the audio  
25 script helps to guide them through the process



1 to cast their ballot.

2 CHAIRMAN WOODBRIDGE: Thank you.

3 Does anybody have any further  
4 questions?

5 I did note that this was one of  
6 the exceptions noted by NJIT.

7 Does NJIT wish to comment on this  
8 portion?

9 MR. DARER: No.

10 CHAIRMAN WOODBRIDGE: No; thank  
11 you.

12 At the top of page 8, continuing  
13 paragraph C, Voting with a VVPRS, paragraph 3,  
14 In any election where the ballot contains a  
15 language in addition to English, the paper  
16 record shall be produced in all such  
17 languages.

18 MR. SMITH: Yes, sir.

19 It is based on the language  
20 selection by the voter.

21 CHAIRMAN WOODBRIDGE: (a) To  
22 assist with manual auditing, candidate names  
23 on the paper record shall be presented in the  
24 same language as used on the DRE summary  
25 screen.

1           MR. SMITH: Yes, sir; that will  
2 also be in the language selected by the voter.

3           CHAIRMAN WOODBRIDGE: Which, I  
4 believe, is how we actually saw the  
5 demonstration; is that correct?

6           MR. SMITH: That's correct.

7           CHAIRMAN WOODBRIDGE: (b) The  
8 information on the paper record not needed by  
9 the voter to perform verification shall be in  
10 English.

11          MR. SMITH: Yes, sir; that is  
12 correct.

13          CHAIRMAN WOODBRIDGE: Four, The  
14 privacy of voters whose paper records contain  
15 an alternative language shall be maintained.

16          MR. SMITH: An alternative  
17 language can be selected in private after the  
18 machine has been activated. There is no  
19 disclosure from the voter to an external party  
20 that they selected an alternative language and  
21 how they voted.

22          CHAIRMAN WOODBRIDGE: Out of  
23 curiosity, if, let's say, somebody comes in  
24 and they're Hispanic and they vote and  
25 everything is in Spanish, when the ballot is

1 printed out, is there any Spanish in the  
2 ballot?

3 MR. SMITH: Yes, sir; there is.  
4 For instance, president is  
5 presidente.

6 CHAIRMAN WOODBRIDGE: Right.

7 MR. SMITH: The instructions in  
8 the header language that you see, election  
9 generale.

10 CHAIRMAN WOODBRIDGE: So, for  
11 example, if a Hispanic voter comes in right  
12 after me, right after an English-speaking  
13 voter, you can tell it is a Hispanic voter  
14 that voted in that particular ballot.

15 MR. SMITH: If you reviewed the  
16 tape, but that voter would not be able to  
17 tell, no.

18 CHAIRMAN WOODBRIDGE: When a  
19 Spanish-speaking voter votes, the paper ballot  
20 is printed in Spanish; is that right?

21 MR. SMITH: The portions of it  
22 associated with contest names, yes.

23 CHAIRMAN WOODBRIDGE: So when you  
24 get finished at the end of the day, you have  
25 ballots with some Spanish in them.

1 Yes?

2 Is that right?

3 MR. SMITH: The contest names,  
4 yes.

5 CHAIRMAN WOODBRIDGE: Okay.

6 Five, The paper records shall  
7 distinguish between accepted and non-accepted  
8 ballots.

9 We did have a specimen here with  
10 two spoiled ballots and the word "voided" at  
11 the bottom of the two spoiled ballots and the  
12 word "accepted" at the end of the last paper  
13 ballot with the barcode.

14 Do you want to respond to this?

15 MR. SMITH: No, sir. It is marked  
16 clearly what has been accepted and what has  
17 been not.

18 CHAIRMAN WOODBRIDGE: 5(a), The  
19 voter shall have the opportunity to accept or  
20 reject the contents of his or her paper  
21 record.

22 And there was a comment from NJIT,  
23 Exception No. 2. Again, I hope I'm not  
24 sounding too repetitive, but the comment from  
25 NJIT related to the issue of the third paper

1 record, once the voter presses the "cast  
2 ballot" button to cast the ballot, the paper  
3 record is printed, but is only reviewable by  
4 the voter for a few seconds, and then advances  
5 to the storage reel. There is not enough time  
6 for the voter to verify the selections on the  
7 third paper record.

8 Any further comments from NJIT on  
9 that exception?

10 MR. DARER: No, nothing to add.

11 CHAIRMAN WOODBRIDGE: Thank you.

12 Mr. Smith?

13 MR. SMITH: We have nothing  
14 further to add.

15 CHAIRMAN WOODBRIDGE: Two, and  
16 this is also part of Exception No. 2 from  
17 NJIT, Before the voter causes a third and  
18 final paper record to be printed, the voter  
19 shall be presented with a warning notice on  
20 the machine that the selections on the DRE  
21 will be final. The voter will see and verify  
22 a printout of the votes, but will not be given  
23 additional opportunities to change any vote.  
24 The third ballot cast shall constitute the  
25 final and official ballot of such a voter.

1                   Again, NJIT's comments relate back  
2 to this Exception No. 2.

3                   Mitch, are you comments still the  
4 same?

5                   MR. DARER: They are.

6                   CHAIRMAN WOODBRIDGE: Thank you,  
7 sir.

8                   Mr. Smith.

9                   MR. SMITH: We submit that the  
10 Board saw this picture warning notice and, in  
11 fact, saw that not only is there a warning  
12 notice, but a button that the voter must press  
13 to get past that warning before they can enter  
14 the ballot the third and final time. We would  
15 state that we are in compliance with the  
16 regulations.

17                   CHAIRMAN WOODBRIDGE: Thank you.

18                   Three, Upon rejecting a paper  
19 record, the voter shall be able to modify and  
20 verify the sections on the DRE without having  
21 to reselect all choices in all contests on the  
22 ballot.

23                   MR. SMITH: And the machine is  
24 configured in that manner. You can change one  
25 or all, anything you want.

1                   CHAIRMAN WOODBRIDGE:   Okay.

2                   Four, if a mechanical error in  
3 recording or printing a paper record occurs,  
4 the record shall be counted as a spoiled paper  
5 record. It will not be counted as one of the  
6 voter's three attempted votes.

7                   MR. SMITH:   And until the printer  
8 confirms back to the base unit that the  
9 printing is complete, the voter spoilage count  
10 is not implemented.

11                  CHAIRMAN WOODBRIDGE:   Again, I  
12 note for the record that two of the three  
13 votes that we have been shown include that  
14 they are voided.

15                  On paragraph 5, top of page 9, The  
16 VVPRS shall be designed to indicate the paper  
17 record which the voter has identified and cast  
18 as her or her official ballot.

19                  MR. SMITH:   Yes, sir. We do so  
20 through the accepted versus the voided  
21 notation and the printed barcode; that is the  
22 notation.

23                  CHAIRMAN WOODBRIDGE:   All right.

24                               Thank you.

25                               Section V, Security and

1 Reliability, A, The VVPRS shall not be  
2 permitted to externally communicate with any  
3 system or machine other than the voting system  
4 to which it is connected.

5 Now, I do recall you said that the  
6 machine can also be connected to a printer; is  
7 that correct, an additional printer?

8 MR. SMITH: That is correct, but  
9 that is the base unit, not the VVPRS.

10 CHAIRMAN WOODBRIDGE: So, in other  
11 words, that's the DRE and not the VVPRS; is  
12 that correct?

13 MR. SMITH: That is correct.

14 CHAIRMAN WOODBRIDGE: B, The VVPRS  
15 shall only be able to function as a printer;  
16 it shall not contain any other services (e.g.,  
17 copier or fax functions) or network  
18 capability. The printer shall not contain any  
19 component with an external communication  
20 feature.

21 MR. SMITH: The system is  
22 compliant with that. It can only -- the VVPRS  
23 can only be a printer and it has no external  
24 communication abilities. It has no wireless.  
25 There are no external communication features.



1                   CHAIRMAN WOODBRIDGE: C, The paper  
2 path between the printing, viewing and storage  
3 of the paper record shall be protected and  
4 sealed from access, except by election  
5 officials authorized by each county  
6 commissioner of registration.

7                   MR. SMITH: And as we see with the  
8 cartridge design, the entire paper path is  
9 protected.

10                   CHAIRMAN 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  
15 New Jersey.

16                   MR. SMITH: The shop tickets that  
17 are used to generate the digital signatures is  
18 approved in several manifestations and  
19 products by the U.S. Government's  
20 Cryptographic Module Validation Program.

21                   As stated in the past, the CMVP  
22 does not certify or approve use in embedded  
23 systems. They only do end cryptographic  
24 solutions. They only approve a certified  
25 end-to-end cryptographic solutions.

1           So those of us using these types  
2 of algorithms in an embedded system whether it  
3 be a medical device, the space shuttle or a  
4 voting machine, they approved only the  
5 algorithms and not the application.

6           CHAIRMAN WOODBRIDGE: So I think  
7 you're telling us that the cryptographic  
8 scheme you use is not necessarily CMVP  
9 approved; is that correct?

10          MR. SMITH: The algorithm is.

11          CMVP approves cryptographic  
12 packages that are so-called shrink wrapped.  
13 We're running an embedded system that you can  
14 buy off the shelf. The algorithm that forms  
15 the core of that approved shrink-wrapped  
16 algorithm is exactly the same as what you  
17 would find in the machine. However, it is  
18 embedded and it becomes part of the voter  
19 machine's software/firmware code and then is  
20 compiled and placed in the machine and is in  
21 there and performs the function just the same  
22 as the shrink-wrapped version that is indeed  
23 approved.

24          There are millions of different  
25 ways that people take these single items and

1 put them into their home products, whether  
2 that be a medical device, the space shuttle,  
3 voting machines, ATMs; that's why the CMVP  
4 does not approve of anything other than the  
5 small number of shrink-wrapped end-to-end  
6 cryptographic solutions.

7 CHAIRMAN WOODBRIDGE: D.1., As  
8 stated in the discussion portion of Section  
9 7.9.3 of the United States Election Assistance  
10 Commission draft criteria for "Voter  
11 Verifiable Paper Audit Trail Requirement,  
12 "There may be cryptographic voting schemes  
13 where the cryptographic algorithms used are  
14 necessarily different from any algorithms that  
15 have approved CMVP (Cryptographic Module  
16 Validation Program) implementations, thus  
17 CMVP-approved software should be used when  
18 feasible, but is not required.

19 CHAIRMAN WOODBRIDGE: Section No.  
20 2 says, The vendor shall provide a  
21 certification of CMVP approval, if applicable.  
22 If not applicable, the vendor shall provide a  
23 certification setting forth the reasons why  
24 CMVP approval does not apply.

25 And I believe yesterday, with

1 regard to the Advantage, you said that does  
2 not apply with regard to the Advantage.

3 MR. SMITH: That's correct. And  
4 we sent an analogous letter with regard to the  
5 Edge.

6 CHAIRMAN WOODBRIDGE: So both  
7 machines act on a similar certification  
8 standard; is that correct?

9 MR. SMITH: To the Attorney  
10 General.

11 CHAIRMAN WOODBRIDGE: Paragraph  
12 V.E, and I note there is also an Exception No.  
13 8 here.

14 It says, The printer shall be  
15 connected to the voting machine either by  
16 completely concealing the printer connection  
17 or via a security tag to prevent tampering.

18 Exception No. 8 said, The cable  
19 connectors (of the printer cable and power  
20 cord) of the voting machine are exposed  
21 without any protection.

22 I believe we did see an exposed  
23 power cord. I don't recall whether we saw an  
24 exposed printer connection.

25 Mitch, I'm going to ask you, the

1 exception is both to the power cord and the  
2 printer connection that are exposed; is that  
3 correct?

4 MR. DARER: Yes.

5 As we can see on these  
6 (indicated), they run from the unit back to  
7 where they're connected. And they're in the  
8 same little conduit until the very end where  
9 they're connected so they're both exposed for  
10 cutting or removing.

11 CHAIRMAN WOODBRIDGE: Thank you  
12 very much.

13 MR. SMITH: To the end of  
14 compliance with the regulation, we recommend  
15 that jurisdictions utilize the adhesive tape,  
16 tamper-evident seals to prevent someone from  
17 unplugging the data and cable lines from the  
18 base unit going up to the VVPRS.

19 CHAIRMAN WOODBRIDGE: All right.

20 How difficult would it be to  
21 modify the equipment so that the power cables  
22 and the data connection cables were not  
23 exposed?

24 MR. SMITH: I am sure our  
25 mechanical engineers could develop some sort

1 of a door or shroud to retrofit to the units.  
2 It, once again, would need to be sealed with a  
3 tamper-evident seal.

4 CHAIRMAN WOODBRIDGE: F, The DRE  
5 shall detect and notify the election officials  
6 at the polling place of any errors and  
7 malfunctions; such as, paper jams or low  
8 supplies of consumables(e.g. paper) that may  
9 prevent paper records from being correctly  
10 displayed, printed or stored.

11 And there is a comment from NJIT.  
12 It says, quote, A mechanical error or  
13 malfunction of the VVPRS does not prompt any  
14 error message or warning, but "freezes" the  
15 system.

16 Mitch, I take it that what happens  
17 is that the system just freezes up; is that  
18 correct?

19 MR. DARER: The one situation that  
20 does show an error message is low paper.  
21 Everything else, we found it just stops. And  
22 that may be an indication that something is  
23 wrong, but not a clear indication.

24 CHAIRMAN WOODBRIDGE: Thank you.  
25 Mr. Smith.

1           MR. SMITH: We assert that while  
2 the error message or warning signal can  
3 certainly be improved, that it does fit in  
4 with the regulation for the unit detects in  
5 and of itself and it notifies the election  
6 officials, in this case, by stopping, if there  
7 is a paper jam. Low supplies, as Mitch just  
8 pointed out, do give a particular warning. If  
9 there is any sort of jam, any issue with the  
10 printer someone would by chance disconnect it,  
11 it does stop. That is something that we can  
12 improve upon.

13           CHAIRMAN WOODBRIDGE: I think what  
14 Mr. Darer had also alluded to was the next  
15 section, which actually probably should have  
16 been read in conjunction with the last  
17 paragraph, and that reads, G, If a mechanical  
18 error or malfunction error occurs (such as,  
19 but not limited to, a paper jam or running out  
20 of paper) DRE and VVPRS shall suspend voting  
21 operation, not record any votes and present a  
22 clear indication of the malfunction to the  
23 voter and election officials.

24           I believe it is Mr. Darer's  
25 contention that there appears to be just one

1 error message; is that correct?

2 MR. DARER: If the malfunction is  
3 low paper, there is an error message that  
4 says, "low paper." If the malfunction is  
5 something else, the system stops and no  
6 message or signal is given.

7 MR. SMITH: Once again, I would --

8 CHAIRMAN WOODBRIDGE: One of the  
9 real-life examples would be, what if you had a  
10 paper jam.

11 MR. SMITH: If you have a paper  
12 jam, the machine stops.

13 CHAIRMAN WOODBRIDGE: How do you  
14 know if the machine freezes up that the paper  
15 jam is causing it.

16 MR. SMITH: You don't necessarily  
17 know, other than perhaps through experience.

18 CHAIRMAN WOODBRIDGE: How  
19 difficult would it be for the vendor to -- I  
20 can't think of the word used yesterday, but to  
21 better differentiate through the different  
22 classes of errors that the machine has in  
23 terms of a signal back to the poll worker?

24 MR. SMITH: We do at this point  
25 give jurisdictions troubleshooting checklists



1 that have the top three available reasons why  
2 the system would freeze up.

3           And as you may realize, it is  
4 typically going to be a paper jam before  
5 anything else; that is typically the case.  
6 Since it is a transportive paper device, there  
7 are going to be paper jams, if anything.  
8 However, they are extremely few and far  
9 between.

10           CHAIRMAN WOODBRIDGE: One of the  
11 interesting characteristics of the machine we  
12 see is that, as opposed to on the Advantage  
13 where the cover over the magazine paper is  
14 clear, I believe the cover over the roll here  
15 is completely opaque.

16           I assume, by doing this, you  
17 protect the integrity of the code, but one of  
18 the byproducts is you can't tell from the  
19 outside, at least, if a mechanical error or  
20 malfunction would be from a paper jam or not.  
21 And that -- so I'm just concerned about how  
22 hard it is going to be if there is a freeze up  
23 to get it fixed in a timely manner.

24           Let me see if I can go back on the  
25 subject again and ask again how difficult it

1 would be to provide error messages that  
2 provided more information, other than on a  
3 paper level to the poll workers who have to  
4 maintain these things under somewhat strenuous  
5 conditions sometimes.

6 MR. SMITH: Mr. Chair, I'm not  
7 sure of that. I guess I'm not that familiar  
8 with that level of detail of the system  
9 architecture and its ability to detect  
10 mechanical error or malfunctions that may  
11 occur.

12 CHAIRMAN WOODBRIDGE: As I recall,  
13 Mr. Callan (ph), who is not here today, who,  
14 obviously, has other important things to do, I  
15 assume that he is one of the technical people.

16 Is it possible for us to be  
17 provided with some response to that issue.

18 MR. SMITH: Yes, sir; we can.

19 CHAIRMAN WOODBRIDGE: I appreciate  
20 that very much.

21 Mr. Fleming.

22 COMMITTEEMAN FLEMING: If you were  
23 to have a paper jam or other error, what is  
24 your recommendation to the county or the  
25 election official to do; do you just spoil

1 that vote and go over to another machine while  
2 you take care of the issue?

3 MR. SMITH: That is correct.

4 COMMITTEEMAN FLEMING: So that  
5 would be the standard procedure of doing it,  
6 so you don't leave that voter hanging half  
7 voted, half not voted.

8 MR. SMITH: Yes; that's correct.  
9 And it also depends on where the voter is in  
10 the process. If they are at the point of  
11 printing, then, of course -- I guess you could  
12 indeed spoil that voter's ballots after you  
13 got the printer restored back to operation, so  
14 I guess anywhere in the voting process you  
15 could do it.

16 COMMITTEEMAN FLEMING: What  
17 happens if they already hit the button and  
18 said, Cast vote?

19 MR. SMITH: Well, then that  
20 program is done.

21 COMMITTEEMAN FLEMING: But it is  
22 not seeing the vote.

23 MR. SMITH: But you don't cast the  
24 vote until you use the paper.

25 COMMITTEEMAN FLEMING: Not on the

1 third try.

2 MR. SMITH: Not on the third try;  
3 so in that case, you would have to fix the  
4 printer.

5 Obviously, at that point, looking  
6 to another machine is not feasible in order to  
7 comply with the statute so you repair the  
8 printer and let it complete and show the voter  
9 how they voted and then go on.

10 CHAIRMAN WOODBRIDGE: Any other  
11 questions from the Committee?

12 COMMITTEEMAN MAHONEY: Not at this  
13 time.

14 CHAIRMAN WOODBRIDGE: H, If the  
15 connection between the voting machine and the  
16 printer has been broken, the voting machine  
17 shall detect and provide notice of this event  
18 and record it in the DRE's internal audit log.

19 The next sentence reads, Voting  
20 operations shall be suspended and no votes  
21 shall be recorded.

22 And we have a note from NJIT on  
23 this that says, as follows: A printer  
24 disconnection is not recorded in the DRE's  
25 internal audit log.

1           MR. SMITH: Yes, sir; that is  
2 correct. And our development people are  
3 working to enhance the current feature.

4           CHAIRMAN WOODBRIDGE: Can you give  
5 us an idea of how soon that issue might be  
6 corrected?

7           Will it be available in time for  
8 the State of New Jersey to use it in the next  
9 couple elections in 2008?

10          MR. SMITH: Yes, sir. I believe  
11 that is possible.

12          CHAIRMAN WOODBRIDGE: Do you have  
13 any sense how soon that might be that you  
14 might get that software correction?

15          MR. SMITH: I apologize. I'm  
16 looking for -- I requested that information  
17 earlier today. I am looking to see if I have  
18 it.

19          CHAIRMAN WOODBRIDGE: You can  
20 provide that to the Committee before the end.

21                 Section I, If the voters's  
22 selections on the DRE do not match the paper  
23 record, then the DRE shall immediately be  
24 withdrawn from service.

25                 One, The affected voter shall be

1 able to vote on another voting machine, if  
2 available, or by emergency ballot.

3 I don't believe that requires a  
4 response from the vendor other than to note  
5 that NJIT testified that there was a good  
6 correspondence between the electronic vote  
7 cast and the paper factor that was produced.

8 J, The vendor shall provide to LPS  
9 documentation for the DRE and the VVPRS that  
10 includes procedures for the recovery of votes  
11 in cases of malfunction.

12 MR. SMITH: And we have  
13 preventative documentation.

14 CHAIRMAN WOODBRIDGE: The LPS  
15 shall be responsible for disseminating this  
16 information to the county commissioners of  
17 registration.

18 K, The vendor shall provide to LPS  
19 documentation for the DRE and the VVPRS that  
20 includes recommended procedures to enable the  
21 election officials to return a voting machine  
22 to workable status after the machine has  
23 malfunctioned, the printer needs to be  
24 replaced, or a voter has used it incompletely  
25 or incorrectly.

1           MR. SMITH: We have provided that  
2 information to the Attorney General's office.

3           CHAIRMAN WOODBRIDGE: Paragraph 1  
4 of that, These procedures shall not cause  
5 discrepancies between the tallies of the  
6 electric and paper records.

7           MR. SMITH: And they do not do  
8 that.

9           CHAIRMAN WOODBRIDGE: Paragraph 2  
10 underneath that, LPS shall be responsible for  
11 disseminating this information to the county  
12 commissioners of registration.

13           When I read over this paragraph,  
14 maybe you can help me, it's not clear whether  
15 the criteria is requesting documentation to  
16 return the election machine to its working  
17 condition during that election or sub  
18 subsequent to that election.

19           I don't know if anybody has any  
20 sense about that, but the documentation you  
21 provide, is it provided to return the machine  
22 to workable condition within a single election  
23 or is it --

24           MR. SMITH: It is at any time,  
25 Mr. Chair. It depends on the jurisdiction's

1 traditions and how they want to work their  
2 procedures to whether they have remote fixes  
3 in the field or whether they let it off and  
4 access it and fix it later.

5 CHAIRMAN WOODBRIDGE: Paragraph L,  
6 Vendor documentation shall include procedures  
7 for investigating and resolving printer  
8 malfunctions including, but not limited to,  
9 printer operations, misreporting of votes,  
10 unreadable paper records and process failures.

11 MR. SMITH: Yes, sir. We have  
12 provided trouble-shooting manuals which cover  
13 this.

14 CHAIRMAN WOODBRIDGE: M, it says,  
15 If a machine malfunctions or becomes  
16 inoperable, voters will be entitled to vote by  
17 emergency ballots.

18 MR. SMITH: And once again, as of  
19 yesterday, I'm not familiar with local  
20 procedures, perhaps Andy could speak to that  
21 for us.

22 CHAIRMAN WOODBRIDGE: Just the  
23 goal or statute that relates to the fact that  
24 if you still operate, it requires that an  
25 emergency box be placed on the machine that



1 can contain up to 30 emergency provision  
2 ballots along with pencils and papers.

3 MR. WYNHAM: There is a place in  
4 Salem County where they use the Edge right  
5 now, as I mentioned yesterday. If nothing  
6 changes with the VVPAT, everything is in  
7 place. They actually deliver the ballots in a  
8 sealed compartment in the actual ballot device  
9 and only break that box in an emergency  
10 condition.

11 CHAIRMAN WOODBRIDGE: So they  
12 actually have that capability?

13 MR. WYNHAM: Associated with each  
14 machine, yes, sir.

15 CHAIRMAN WOODBRIDGE: Thank you.

16 (Discussion off the record.)

17 CHAIRMAN WOODBRIDGE: Mr. Mahoney  
18 brings up a good point; and that is, as we  
19 have requested in the past, if you would not  
20 mind providing us with a picture of one of the  
21 DRE's in that same county that has such an  
22 attached box.

23 Moving over to the top of page 11,  
24 Section VI, Certification, A -- subparagraphs  
25 A, B and C really aren't relevant to the

1 inquiry here or related to vendors. Why don't  
2 we skip down to paragraph VI.C.1.

3 VI. Certification, C.1 says, The  
4 vendor shall provide to the State,  
5 electronically and in hard copy, all use and  
6 technical specifications and documentation  
7 relating to the function of the VVPRS.

8 MR. SMITH: We have provided  
9 those.

10 CHAIRMAN WOODBRIDGE: That's been  
11 done; okay.

12 Two, The vendor shall submit a  
13 certification that the VVPRS satisfies the  
14 State's criteria.

15 MR. SMITH: We provided that to  
16 the Attorney General's office.

17 CHAIRMAN WOODBRIDGE: Paragraph D,  
18 A VVPRS shall not at any time contain or use  
19 undisclosed hardware or software. The only  
20 components that may be used in the system are  
21 components that have been tested and certified  
22 for use in the State.

23 MR. SMITH: There is no  
24 undisclosed hardware or software.

25 CHAIRMAN WOODBRIDGE: E, The

1 vendor will be required to provide the source  
2 code for the DRE and the VVPRS to the State  
3 and/or to place such source code in escrow, to  
4 allow for independent testing by the State at  
5 its discretion. Upon request, the State will  
6 enter into a nondisclosure agreement with the  
7 vendor.

8           Just to refresh my memory with  
9 regard to Advantage, you told us that with  
10 regard to Advantage, you were in the process  
11 of negotiating the non-disclosure agreement.

12           What is the status with the Edge  
13 machine?

14           MR. ROMEI: Mr. Chairman, the  
15 status is the same. We have already one  
16 agreement providing for the source code in  
17 both machines. As I mentioned yesterday, we  
18 sent in what we believe to be the final draft  
19 of that to the Attorney General last week and  
20 we're awaiting the Attorney General's approval  
21 or further comments.

22           CHAIRMAN WOODBRIDGE: You might  
23 give us the status if you follow up with the  
24 Attorney General's office and try to find out  
25 by the end of the week what the status is.

1 Paragraph F, The vendor will be  
2 responsible for the cost of any testing of the  
3 VVPRS that the State deems necessary to  
4 achieve certification.

5 You don't need to respond to that.

6 G, Vendor documentation shall  
7 include printer reliability specifications  
8 including Mean Time Between Failure estimates  
9 and shall include recommendations for  
10 appropriate quantities of backup printers and  
11 supplies.

12 MR. SMITH: Yes. We have provided  
13 those systems to the Office of the Attorney  
14 General.

15 CHAIRMAN WOODBRIDGE: The next  
16 section under that is a definition, Mean Time  
17 Between Failures, so I'm not going to read  
18 that part of it.

19 The next major section, VII.  
20 Pre-Election Procedures, A, A VVPRS's  
21 components shall be integrated into the  
22 existing local logic testing procedures  
23 performed by county election officials, which  
24 are performed in preparation for an election.

25 MR. SMITH: Mr. Chair, the

1 equipment is amenable to that when you perform  
2 the pre-lat function of the component. The  
3 VVPRS operates in tandem with the base units  
4 and you can verify that what you see on the  
5 electronic screen and the paper and the script  
6 that you voted do, in fact, all match, just  
7 the same as NJIT did for their activities.

8 CHAIRMAN WOODBRIDGE: I should  
9 have asked this question before because it  
10 came up earlier this afternoon, but what does  
11 the term "pre-lat" mean?

12 MR. SMITH: It's short for  
13 pre-election logic and accuracy testing.

14 The equipment has a pre-lat mode  
15 and an official election mode and if we took  
16 those, closed the polls and then reopened  
17 them, the machine would open in official.

18 CHAIRMAN WOODBRIDGE: Thank you.

19 The next section, VIII.  
20 Post-Election Procedures, certain paragraphs,  
21 A, B, C do not really relate directly to the  
22 vendor.

23 Paragraph D reads, In case the  
24 machine cartridge becomes unreadable or is  
25 damaged for an audit or recount, the county

1 commissioner of registration shall produce the  
2 ballot image audit log from the machine. The  
3 vendor shall provide to LPS documentation  
4 regarding the production of such audit log.

5 MR. SMITH: And we have provided  
6 that documentation.

7 CHAIRMAN WOODBRIDGE: E, The paper  
8 record shall be created such that its contents  
9 are machine readable for purposes of any  
10 recount, audit or initial tallying of an  
11 election in the event that the machine  
12 cartridge containing the electronic record is  
13 not usable.

14 MR. SMITH: And, indeed, those are  
15 machine readable.

16 CHAIRMAN WOODBRIDGE: Paragraph 1  
17 beneath that says, The paper record shall  
18 contain error-correcting codes for the purpose  
19 of detecting read errors. This may be done by  
20 barcode.

21 I believe we already went through  
22 that section before.

23 (Discussion off the record.)

24 CHAIRMAN WOODBRIDGE: Mr. Fleming  
25 reminds me that I'm not as smart as I thought

1 I was. We jumped over paragraph F, which I  
2 crossed out yesterday because it related to  
3 continuous spool.

4 Paragraph F, If a county employs a  
5 "Continuous Spool" VVPRS, it shall conduct any  
6 audit or recount in accordance with the  
7 procedures established by LPS to fully protect  
8 the secrecy of all votes cast. Such  
9 procedures may include, but not be limited to,  
10 cutting the spool-to-spool paper roll into  
11 individual paper records and restricting  
12 public access to the uncut paper roll.

13 I don't think that's -- that's  
14 more of a procedural thing.

15 Paragraph G, The vendor shall  
16 provide to LPS written procedures to identify  
17 and resolve any discrepancy between an  
18 electronic record and its corresponding paper  
19 record. LPS shall be responsible for  
20 disseminating this information to the county  
21 commissioners of registration.

22 MR. SMITH: And we have provided  
23 those procedures.

24 CHAIRMAN WOODBRIDGE: Thank you.  
25 And last, but not least, as part

1 of the criteria, H, The vendor shall provide  
2 written procedures for determining what  
3 constitutes clear evidence that a paper record  
4 is inaccurate, incomplete or unreadable. The  
5 LPS shall be responsible for disseminating  
6 this information to the county commissioners  
7 of registration.

8 MR. SMITH: As you mentioned  
9 yesterday, Mr. Chair, some of that is  
10 self-evident on the tape; but in some  
11 instances, as we pointed out earlier, there is  
12 an "end" bar that is human readable, such  
13 things constitute clear evidence that the  
14 record is incomplete, if that is not there.

15 CHAIRMAN WOODBRIDGE: Give me a  
16 second.

17 We walked through the formal  
18 criteria. I did have one or two other  
19 questions to ask.

20 Could you refresh our memories and  
21 tell us again, what states those machines are  
22 certified in and who we have copies of? I  
23 believe we have copies of documents from  
24 Louisiana and California.

25 Are there any other states so far?



1           MR. SMITH: The Edge 1 without  
2 VVPAT is also certified in Detroit.

3           CHAIRMAN WOODBRIDGE: I believe  
4 you indicated it is also used in Colorado or  
5 is that the Edge 1 versus Edge 2.

6           MR. SMITH: The Edge 2 is used in  
7 Colorado; the Edge 1 is used in New Jersey.

8           CHAIRMAN WOODBRIDGE: So correct  
9 me if I'm wrong, there are four states that  
10 currently use either Edge 1 or Edge 2,  
11 California, Florida, Nevada and Louisiana?

12           MR. SMITH: No, sir. There are  
13 additional states that utilize the Edge and  
14 its successor-generation product, the Edge 2  
15 Plus. I am strictly confining my comments to  
16 the Edge 1 with VVPAT since that is the  
17 configuration that is seeking consideration.

18           CHAIRMAN WOODBRIDGE: Could you  
19 describe ITA, Independent Testing Authority  
20 documentation?

21                    Has that been provided to the  
22 Committee?

23           MR. SMITH: Yes, sir.

24                    We have provided the extreme  
25 reports from Wyle Laboratories, which has been

1 a laboratory of record for the Edge 1 product  
2 and the Edge 1 system describing the hardware  
3 that you see and the incremental minor changes  
4 to the firmware from that initial baseline.

5 CHAIRMAN WOODBRIDGE: Does the  
6 Committee have any other questions that it  
7 would like to pose to the vendor?

8 COMMITTEEMAN MAHONEY: Yes. I do  
9 I have two. Yes.

10 Earlier you stated that some of  
11 the counties opt to use multiple Edge voting  
12 machines.

13 Can you just tell me the cost of  
14 an Edge voting machine?

15 MR. SMITH: I do not have that  
16 information. There is a negotiated state  
17 statement for New Jersey that we could all go  
18 look it up, but I do not know off the top of  
19 my head.

20 COMMITTEEMAN MAHONEY: Also, you  
21 stated earlier that you can change the whole  
22 printer unit during an election, put another  
23 one on for the election.

24 Would you know the cost of the  
25 printer unit with the paper roll in it?

1                   MR. SMITH: No, sir, I don't.  
2                   Once again, it's on the negotiated state  
3                   statement.

4                   COMMITTEEMAN MAHONEY: Okay.  
5                   Thank you.

6                   CHAIRMAN WOODBRIDGE: Mr. Fleming.

7                   COMMITTEEMAN FLEMING: No  
8                   questions.

9                   MR. ROMEI: Mr. Chairman, there is  
10                  one point we would like to get on the record.

11                  Frankly, there was a question  
12                  asked concerning whether any of these devices  
13                  contain radio frequency components, which  
14                  would allow anybody to communicate with them  
15                  or network with them during an election.

16                  I would like Mr. Smith to comment  
17                  on that one issue.

18                  CHAIRMAN WOODBRIDGE: Certainly.  
19                  And if there are any other incomplete answers  
20                  that you believe are necessary to supplement  
21                  the responses to, this is a good time to  
22                  provide them.

23                  Mr. Smith.

24                  MR. SMITH: Thank you,  
25                  Mr. Chairman.

1           In response to the question, there  
2 are no wireless components or devices in  
3 either of the two products in consideration.  
4 There is no method for them to communicate  
5 over the air waves because they simply don't  
6 have that capability.

7           CHAIRMAN WOODBRIDGE:   Okay.

8           Thank you.

9           This might be a good time to take  
10 a break. I do believe we have a sign-up sheet  
11 for people who might want to speak with regard  
12 to public comment, but since we have a small  
13 audience, I assume that Penny and Flavio, you  
14 want to make comments?

15          PROFESSOR VENETIS:   Yes.

16          MR. KOMUVES:   Yes, Mr. Woodbridge.

17          CHAIRMAN WOODBRIDGE:   Does anybody  
18 else in the room here want to make a comment  
19 during the public presentation part?

20          (No response.)

21          CHAIRMAN WOODBRIDGE:   Why don't we  
22 take a short break and come back here at 3:30  
23 and resume with the public comment portion of  
24 the hearing.

25          Thank you.

1 (Recess: 3:19 p.m. to 3:34 p.m.)

2 CHAIRMAN WOODBRIDGE: Okay.

3 We're going back on the record for  
4 the last part of our hearing today.

5 Flavio, if you would do the honors  
6 of introducing yourself for the court reporter  
7 and the record.

8 We look forward to your comments.

9 MR. KOMUVES: Thank you,  
10 Mr. Chairman.

11 Flavio Komuves, Deputy Public  
12 Advocate.

13 Mr. Chairman, I did have a few  
14 question, which for both Sequoia and the NJIT  
15 reps., which I'll direct through you, if  
16 that's okay.

17 CHAIRMAN WOODBRIDGE: Can I ask  
18 you a question, first?

19 Do you have anything in the way of  
20 comments or statements you want to make before  
21 you ask your questions?

22 Because we need to get those out  
23 of the way.

24 MR. KOMUVES: Some of the  
25 statements that I am going to make will depend

1 upon the answers that I receive so I'll be  
2 glad to make a statement first and then go to  
3 questions, but some of what I have to say is  
4 going to depend on those answers.

5 CHAIRMAN WOODBRIDGE: Let me just  
6 remind everybody, too, just for good  
7 housekeeping purposes that the Committee here  
8 is focused only on the issue of whether this  
9 particular machine, the Edge meets the  
10 New Jersey criteria and anything that goes  
11 significantly beyond that really doesn't help  
12 us in that decision. I am sure I don't need  
13 to remind you of that.

14 With that nano admonition, please  
15 go ahead.

16 MR. KOMUVES: Sure.

17 I think all of my questions will  
18 be within that framework, but the first thing  
19 that I'm still trying to understand is that  
20 the testimony was that NJIT performed a test  
21 of what we're calling a 1200 vote test, which,  
22 as I understand it, included commanding the  
23 machines to cast 1200 votes and to see what  
24 happened as a result of that test.

25 What I am trying to get my head

1 around is how the machines, how the voting  
2 machine, the Edge today, the Advantage  
3 yesterday were commanded to do those votes;  
4 was it a computer that was plugged into the  
5 voting machines or what?

6 Having read the reports, I'm still  
7 not clear on how that happened.

8 CHAIRMAN WOODBRIDGE: The first  
9 thing I would ask is I assume the question  
10 should be directed to NJIT; do you agree?

11 MR. KOMUVES: Yes.

12 CHAIRMAN WOODBRIDGE: Mitch, do  
13 you care to respond to the question?

14 PROFESSOR JAIN: There was a  
15 scripted program that was read on the machine  
16 which cast these 1200 votes so these were done  
17 through a scripted program.

18 MR. KOMUVES: Just so I understand  
19 this, the machine itself was programmed to run  
20 these 1200 vote tests?

21 MR. DARER: Yes, it was. And it  
22 was in pre-lat mode, which allows for that, if  
23 I'm stating that correctly and that's not  
24 possible in official election mode.

25 CHAIRMAN WOODBRIDGE: Mitch, I

1 would ask a question of follow up; namely, how  
2 long does it take for the machine to cast  
3 those 1200 votes?

4 Does it do it in the same time  
5 frame, for example, once every two minutes?

6 MR. DARER: Can we look that up or  
7 think on it?

8 CHAIRMAN WOODBRIDGE: Yes.

9 Is that okay with you, Flavio?

10 That was actually my question, but  
11 I think you got the answer you were looking  
12 for?

13 MR. KOMUVES: Yes. I, in fact,  
14 did.

15 The second question I have, which  
16 is also directed to NJIT, which is for you,  
17 and what I'll ask is this, is whether NJIT has  
18 any position one way or the other about  
19 whether the State's criteria, as given to  
20 them, represent a reasonable and  
21 scientifically valid, a reasonable and  
22 scientifically valid framework for determining  
23 the reliability and the usability and the  
24 security of the machines that they evaluated.

25 CHAIRMAN WOODBRIDGE: Before I



1 hear from NJIT, I should remind the public  
2 that the Committee itself is not taking any  
3 position on that either because our purpose is  
4 fairly narrow, but Mr. Darer, if you want to  
5 respond, please feel free to respond.

6 MR. DARER: Would one of you  
7 repeat the question?

8 It was a little hard to hear.

9 MR. KOMUVES: Certainly.

10 The question is whether NJIT takes  
11 any position about whether the criteria that  
12 you were given by the State represents to a  
13 reasonable degree of scientific certainty a  
14 valid means for testing the voting machines?

15 MR. DARER: No. We have no  
16 position. That was not within the scope of  
17 our project or what we were engaged to do.

18 CHAIRMAN WOODBRIDGE: Thank you.

19 MR. KOMUVES: Mr. Woodbridge, I  
20 mentioned this yesterday, but I just want to  
21 make it clear for the record, again; which is,  
22 that given the time frame that the public was  
23 given to respond to these reports -- I realize  
24 you've ruled that you're going to close the  
25 record at 5:00 on Friday -- I just want to

1 note again, that I do take exception to that  
2 because, among other things, the amount of  
3 data that we need to evaluate and consult with  
4 our experts on, it's just, in my view, not a  
5 sufficient amount of time to fully respond to  
6 that, so I just want to put that exception on  
7 the record.

8 CHAIRMAN WOODBRIDGE: Your  
9 comments are noted.

10 MR. KOMUVES: Thank you.

11 Now, there was testimony from the  
12 folks from Sequoia before that they used this  
13 program called WinEDS. And I just wanted to  
14 know what version of WinEDS is used in  
15 conjunction with the Edge and the Advantage  
16 machines at this time, in this configuration.

17 CHAIRMAN WOODBRIDGE: Can you  
18 answer that question?

19 I assume you're referring to the  
20 machines that we looked at today and  
21 yesterday?

22 MR. KOMUVES: Yes, sir.

23 MR. SMITH: We use Version  
24 3.1.074. It is state certified and federally  
25 certified.

1 MR. KOMUVES: And the state  
2 certification, that was done last September in  
3 2006?

4 CHAIRMAN WOODBRIDGE: You're  
5 directing that to the Chair, but I will pass  
6 that.

7 MR. KOMUVES: I apologize.

8 CHAIRMAN WOODBRIDGE: When was  
9 that certification made. Do you know?

10 MR. SMITH: I was not in this  
11 position at Sequoia at that time so I have no  
12 knowledge.

13 CHAIRMAN WOODBRIDGE: I think the  
14 answer was he has no knowledge of when it was.

15 MR. KOMUVES: Okay.

16 CHAIRMAN WOODBRIDGE: I would say  
17 you could probably determine that through the  
18 Secretary of State's records.

19 MR. KOMUVES: Okay.

20 And just so you understand, the  
21 reason why I'm asking that is we identified a  
22 report from an individual who attended the  
23 hearing last September and she referred to the  
24 WinEDS under certification as 3.1.073, which  
25 may be different from 074, but that was part

1 of the exhibit though.

2 The next question I had,  
3 Mr. Woodbridge, is there was testimony that  
4 there is a federal certification in effect for  
5 the Edge machine as configured with this  
6 printer and with this printer driver.

7 The question I had was whether  
8 that was to the 2002 DSS (ph) or 2005 DSB (ph)  
9 standards.

10

11 CHAIRMAN WOODBRIDGE: Mr. Smith,  
12 do you understand the question?

13 MR. SMITH: At the time that the  
14 Edge 1 was certified federally, the labs were  
15 not approved to test the '05 standards so it  
16 was approved to the 2002 standards.

17 CHAIRMAN WOODBRIDGE: And if I  
18 could interrupt, Mr. Fleming has just pointed  
19 out to me that on November 16th of 2006, the  
20 Attorney General approved the WinEDS version  
21 3.1.074, which was approved by this committee  
22 apparently on November 14, 2006 according to  
23 the spreadsheet that we were provided.

24 MR. KOMUVES: Excellent. I  
25 appreciate that.

1                   CHAIRMAN WOODBRIDGE:  You're  
2 welcome.

3                   MR. KOMUVES:  There has been some  
4 testimony today about what happens with regard  
5 to the -- if the voter rejects the first two  
6 ballots and that you have then this third  
7 ballot that comes up.

8                   In the case of the Advantage, it  
9 scrolls through it after, what I would  
10 estimate is probably 4 or 5 seconds.  There  
11 has been some testimony that with regard to  
12 the Edge, it would take about 18 seconds.

13                   I'm trying to understand, I guess,  
14 what is the remedy for the voter if even that  
15 third piece of paper doesn't match the choices  
16 that they made on the machines; or, is there a  
17 remedy?

18                   CHAIRMAN WOODBRIDGE:  Let me make  
19 sure I understand the question.

20                   Is the question, what if your  
21 electronic vote doesn't match the paper vote  
22 on the third ballot or is your question if you  
23 don't like the third vote that was cast?

24                   MR. KOMUVES:  It's a little bit of  
25 both.

1           The question is: If the third  
2 paper record is not what the voter intends to  
3 cast, is there any remedy for that voter?

4           And it could be a -- and I'm not  
5 saying because of a last-minute change of  
6 mind, but because what is on that paper  
7 doesn't match what is on the screen.

8           Is there any recourse or is there  
9 any remedy for the voter to say, Hey, that  
10 third piece of paper is not what I intended.

11           CHAIRMAN WOODBRIDGE: I think that  
12 is way outside of what we, I think, or the  
13 vendors are here to do today, except that it  
14 is my understanding that New Jersey, like  
15 several other states, gives you three bites at  
16 the apple and that's it.

17           MR. KOMUVES: Okay.

18           Mr. Woodbridge, I think I have  
19 probably only one or two other questions.

20           CHAIRMAN WOODBRIDGE: Sure.

21           MR. KOMUVES: One is just to get a  
22 sense of the Committee's future plans.

23           There has been some testimony here  
24 that certainly with regard to the Advantage,  
25 there are some adjustments to the software,

1 possibly the new version that might be issued  
2 at some point in the next two or three months.

3           There has been some testimony that  
4 there might be some adjustments to respond to  
5 the exceptions of NJIT regarding the  
6 Advantage.

7           My question is whether you're  
8 intending to reconvene the Committee at some  
9 point to look at those or if you've decided  
10 that yet?

11           CHAIRMAN WOODBRIDGE: I don't  
12 think we formally decided about how we're  
13 going to decide, but especially after long  
14 hearings like this, it takes us some time to  
15 get our thoughts together.

16           Usually what happens is one of us  
17 communicates with one of the others and says,  
18 Well, this is what I see, and then, they say,  
19 Well, this is what I see, and we all come to a  
20 group hug and then give it to the Attorney  
21 General's office.

22           It's not much more sophisticated  
23 than that. And, frankly, there aren't any  
24 specific procedures that are designated.

25           The problem we're all facing, you,

1 the vendors and us is that we're on a very  
2 tight time frame that unfortunately doesn't  
3 give us all of the time that we would all like  
4 to be able to spend on this, but we're doing  
5 the best we can and that's why I think we're  
6 all here today.

7 MR. KOMUVES: I appreciate that  
8 and I do appreciate your time, obviously,  
9 looking at this very important issue.

10 CHAIRMAN WOODBRIDGE: You've  
11 raised some good questions, too, and we  
12 appreciate that, also.

13 MR. KOMUVES: Certainly.

14 And this one is more for -- I  
15 guess this is really for Sequoia. And the  
16 question or the testimony that came in before  
17 is that a certification has been given to the  
18 Attorney General that there is no undisclosed  
19 software or hardware on this machine. I guess  
20 I'm trying to figure out where the software or  
21 hardware is disclosed.

22 CHAIRMAN WOODBRIDGE: Let me make  
23 sure I understand the question.

24 Are you asking whether there is a  
25 statement that lists all the hardware or



1 software that is used by the machine; is that  
2 right?

3 MR. KOMUVES: Yes.

4 I mean, the testimony is a  
5 certification has been given to the AG that no  
6 undisclosed software or hardware exists. And  
7 I -- that certification says what it says. I  
8 haven't seen that. I -- there is testimony  
9 that that has been given to the Attorney  
10 General.

11 My question is: Where is the  
12 disclosure?

13 In other words, where is the  
14 document that I can look at to see that this  
15 is the disclosed software and hardware on the  
16 machine?

17 CHAIRMAN WOODBRIDGE: I believe  
18 one of the questions that I will provide, try  
19 to provide in short order asks whether or not  
20 the re-documentation of the system has been  
21 provided to the Attorney General's office.

22 I don't know to what extent, I  
23 don't think anyone does, that all the  
24 information is necessarily made public given  
25 the proprietary nature of some of this

1 material, but I ask the representatives of  
2 Sequoia if they can respond to the question  
3 the best they can.

4 MR. SMITH: The reports submitted  
5 to the Attorney General constitute our  
6 disclosure, but then there are listings in  
7 addition.

8 MR. KOMUVES: And, Mr. Woodbridge,  
9 that was with regard to the Edge and the  
10 Advantage?

11 CHAIRMAN WOODBRIDGE: Mr. Smith?

12 MR. SMITH: To both.

13 CHAIRMAN WOODBRIDGE: To both.

14 MR. KOMUVES: I thought the  
15 testimony yesterday had been that the ITA --  
16 in looking at the Advantage, that the ITA is  
17 presently looking at the Advantage that  
18 includes this printer and this software driver  
19 and that it has not completed that yet.

20 If I misunderstood, I would  
21 appreciate that being clarified.

22 CHAIRMAN WOODBRIDGE: It is late  
23 in the day, but are you referring to the Edge  
24 today; is that what you're talking about?

25 MR. KOMUVES: I'm actually

1 referring to the Advantage because the  
2 testimony that I understood yesterday is that  
3 there hasn't been a Federal certification, as  
4 of yet, of that Advantage with that printer  
5 and with that software driver.

6 If I've misunderstood that  
7 testimony, if they could let me know, that  
8 would be great, but that a Federal  
9 certification of that device that DRE with  
10 that printer and that software driver is  
11 pending.

12 CHAIRMAN WOODBRIDGE: Just to go  
13 back a step. I believe that the procedures  
14 that we presently are going by, so-called  
15 voluntary standards I don't think it is a  
16 universal standard yet.

17 MR. KOMUVES: Right.

18 CHAIRMAN WOODBRIDGE: And, also, I  
19 want to make sure for the record that this  
20 particular hearing is directed towards the  
21 Sequoia Edge machine with the VVPRS, not the  
22 Advantage that we talked about yesterday.

23 However, having said that, if the  
24 folks at Sequoia are able to respond to the  
25 question, I think that would be very helpful.

1           MR. SMITH: We are providing the  
2 entire chain of clinical ITA reports from the  
3 base hardware that you see here and from the  
4 Edge 1 with the VVPAT. The Wyle Lab report,  
5 that is the unit with the VVPAT added, as you  
6 see here in its configuration, will be given  
7 to the Attorney General's office tomorrow for  
8 planning.

9           CHAIRMAN WOODBRIDGE: I believe  
10 the Public Advocate asked about the Sequoia  
11 Advantage; is that correct?

12           MR. KOMUVES: Yes, sir.

13           CHAIRMAN WOODBRIDGE: And so I  
14 think the question is directed towards the  
15 Sequoia Advantage, not the Edge.

16           MR. SMITH: Yes, sir.

17           And that's why I say the Wyle  
18 report.

19           Once again, the full ITA reports  
20 to date based on the Advantage and based on  
21 the Edge.

22           The Advantage base model that you  
23 see here and the added VVPAT, that report is  
24 to arrive tomorrow and will be given to the  
25 Attorney General's office either tomorrow or

1 Friday.

2 MR. KOMUVES: Great; thank you.

3 I will pursue production of that  
4 report with the AG's office, if we deem that  
5 appropriate.

6 That exhausts my questions, so I'm  
7 just going to make a few comments.

8 CHAIRMAN WOODBRIDGE: Go ahead.

9 MR. KOMUVES: The bulk of my  
10 comments that I made yesterday about what the  
11 purpose of the Public Advocate is, the role in  
12 which we're appearing here and our general  
13 concern with the quantum of testing, I am not  
14 going to go over them again. I will just  
15 incorporate them by reference into what I'm  
16 saying today.

17 Speaking to the Sequoia Edge,  
18 there is a fundamental issue that I think that  
19 the Public Advocate has with regard to the  
20 Edge, so that we don't even need to get into  
21 the testing, although we are concerned about  
22 it, and that is, the fact that it is a  
23 "continuous spool" system.

24 This is what the problem is with a  
25 "continuous spool" system in New Jersey -- as

1 I think NJIT correctly said, there is nothing  
2 on these ballots that identifies the voter  
3 either by name or by ID so if the only record  
4 of the election that existed was that roll of  
5 paper, I would agree that there is -- that  
6 there is nothing in that roll of paper that  
7 presents a problem of voter privacy.

8 Voter privacy is important because  
9 it's one of the statutory elements in  
10 19:48.1A; which is, the voting system has to  
11 preserve secrecy in the act of voting.

12 I think something Sequoia said  
13 yesterday and something I think they said  
14 again today really resonated with me in that  
15 regard; which is, that you have to look not  
16 just at the system itself, but you have to  
17 look at local jurisdiction and their laws and  
18 their practices and their policies and their  
19 procedures.

20 Like, for example, it was stated  
21 that under New Jersey law, you can't be  
22 hovering over the Advantage and you can't be  
23 hovering over the Edge.

24 So the fact that somebody might be  
25 able to stand behind the voter is probably not

1 going to happen.

2 Why is it not going to happen?

3 Because there are local laws and  
4 procedures that are going to address that. So  
5 when you are looking at the issue of public,  
6 voter privacy, local laws are highly relevant  
7 and I think Sequoia would concede that point.

8 This is what we have in  
9 New Jersey. I am just going to ask  
10 Mr. Bradley (ph) to bring this document up and  
11 this document, what it is, it's a book of  
12 voting authority slips, as would be used in an  
13 election in New Jersey. I'll describe what  
14 this is like.

15 This is a book that is bound with  
16 staples and it has a number of slips of paper  
17 sequentially numbered in this case from 901  
18 through 999 -- 975, sorry.

19 The way New Jersey law operates in  
20 an election is that a voter prints their name  
21 on this voting authority slip and signs their  
22 name.

23 The other side of this, of this  
24 voting authority slip, it's partially scored  
25 and it's torn off.

1           And again, by state law, these are  
2 put on a string that -- there is, in fact, a  
3 hole in here. And these are put in a string  
4 on the voting machine.

5           So that there is -- there exists,  
6 as a result of New Jersey laws and practices,  
7 a permanent record, probably a public record,  
8 certainly a record in the case of a recount,  
9 that has the printed names of people in which  
10 they came into the polling place and a  
11 practice that takes the other half of this  
12 voting authority slip and puts it on a string  
13 on the machine in which they went to.

14           So that when you look at the  
15 totality of the election practice in  
16 New Jersey, a "continuous spool" system that  
17 keeps the votes in the order in which they  
18 were cast, together with a public record,  
19 which has the order of votes -- the order in  
20 which people cast ballots and literally where  
21 they cast ballots in the election presents a  
22 really great threat to voter privacy.

23           As a result, Sequoia has improved  
24 on its burden of this voting system together  
25 with the laws, as they now exist, in



1 New Jersey of a voter's right of secrecy.

2 I am going to give you that to  
3 keep as part of the record of the case.

4 The statutory citation is  
5 19:52-3.1, which basically says, A voter must  
6 sign a voter, which is consecutively numbered,  
7 which remains bound in a pad. And as I said,  
8 which are probably public records in any  
9 event.

10 Even if you didn't have voting  
11 authority slips in New Jersey, there is  
12 another threat to privacy, which again comes  
13 from the local practices.

14 When a person goes into vote, the  
15 poll workers are supposed to read the name of  
16 the voter aloud so that the challengers can  
17 hear it. And then the challengers who are  
18 there are free to do whatever they want with  
19 that information, including maintain a list,  
20 including the order in which people voted and  
21 which machines they went into.

22 So you have this combination of  
23 local practices between a "continuous spool"  
24 system and a record of votes in the order they  
25 were cast that really presents a threat to

1 privacy. Really, anything with a "continuous  
2 spool," I would not recommend for use in  
3 New Jersey.

4                   Having said that, one thing that I  
5 really like about the Edge, and if you look at  
6 my exhibits that I gave you yesterday, there  
7 is a report from the Brennan Center (ph), the  
8 Sequoia Edge is a scrolling machine versus a  
9 full-face machine.

10                   The scrolling machines tend,  
11 according to scientific studies, to create a  
12 lesser number of undervotes, people  
13 inadvertently missing a race.

14                   So the fact that it is a scrolling  
15 machine I think is a very positive thing. It  
16 is superior in that regard to the full-face  
17 machines, which tend to have a higher degree  
18 of undervotes and which, according to the  
19 Brennan Center (ph), tend to impact  
20 disadvantaged communities more disparately  
21 than others.

22                   CHAIRMAN WOODBRIDGE: Can I  
23 interrupt?

24                   MR. KOMUVES: Sure.

25                   CHAIRMAN WOODBRIDGE: Maybe it is

1 the lateness of the day, but it is not  
2 completely obvious to me why a scrolling  
3 machine produces less undervotes than a  
4 non-scroll machine.

5 MR. KOMUVES: I think that the  
6 scientific thinking on that and that is  
7 detailed in the Brennan (ph) report is that  
8 it's less visually confusing to have multiple  
9 races, to have a single race or a couple of  
10 races presented to you, as opposed to multiple  
11 races.

12 I would refer you to that report  
13 for the exact reasons why, but the fact that  
14 it exists is certainly very much supported in  
15 the scientific literature.

16 CHAIRMAN WOODBRIDGE: I can't  
17 speak for the rest of the Committee, but I  
18 would like to see the report. I am curious  
19 about that comment.

20 Also, if I could interrupt you  
21 again.

22 Is that part of the materials that  
23 were provided to us yesterday?

24 MR. KOMUVES: Yes, sir; it is. I  
25 am just going to the get you the cite for it.

1                   CHAIRMAN WOODBRIDGE: The record  
2 should reflect the fact that we were provided  
3 by the Public Advocate with a fairly  
4 substantial number of documents which are  
5 currently being duplicated related to the  
6 Advantage machine and they apparently relate  
7 to the Edge inquiry today. I am told we  
8 should get eight copies by tomorrow.

9                   MR. KOMUVES: What I presented  
10 yesterday with a few exceptions were Exhibits  
11 1 through 67, that was the binder that I  
12 handed up yesterday.

13                   Exhibit 60, which is the book of  
14 voting authority slips, that I just gave you,  
15 wasn't relevant to yesterday's testimony, but  
16 if there's anything else, anything that was  
17 presented yesterday, I would also rely upon it  
18 in today's testimony.

19                   The reference, if you look at  
20 Exhibit 29, basically, I believe it is pages  
21 98 through 102 or so talk about the undervote  
22 rate with full-face systems, as compared to  
23 scrolling systems.

24                   Obviously, if you would like some  
25 more data and if I can help provide you with

1 it, I would be happy to do that, but that  
2 would be a good starting point.

3 CHAIRMAN WOODBRIDGE: All right.

4 We did raise the issue of the  
5 sequential privacy question. One of the  
6 responses was, Well, you could get several of  
7 these scrolling machines in a room and each  
8 individual wouldn't necessarily -- from a pad,  
9 one might go to Machine A, one might go to  
10 Machine B, one might go to Machine C. I don't  
11 know what your reaction to that is.

12 MR. KOMUVES: That's a fair  
13 question.

14 In fact, I monitored an election  
15 in a jurisdiction where each precinct has  
16 maybe eight, ten, twelve of these or so in the  
17 room, eight or ten or twelve machines, but  
18 doesn't have voting authority slips.

19 My reaction to that is that since  
20 New Jersey law requires the right half of the  
21 voting authority slip to be put on a string,  
22 basically, that is on the machine at issue for  
23 that reason; and second, for the reason that  
24 when you only have two or three machines, it  
25 is not that difficult for a challenger or

1 another person to keep track of where the  
2 voter goes.

3           So the fact that there is really  
4 only two or three machines, together with the  
5 fact that there is a record kept of where the  
6 voters go because those votes are kept on a  
7 string, that really doesn't provide enough  
8 privacy.

9           If this was eight or twelve  
10 machines, if there weren't voter authority  
11 slips, I might have a different view; but the  
12 fact is New Jersey requires the right side of  
13 that voting slip to be put on a string on the  
14 machine that you're voting on. And with only  
15 two or three machines, it might not be -- it  
16 might not have the effect of randomizing  
17 things sufficiently so that the "continuous  
18 spool" systems could be permissible in  
19 New Jersey.

20           CHAIRMAN WOODBRIDGE: If I may  
21 interrupt you for a second.

22           Historically, not only do you sign  
23 in on a book and then sign in on this and then  
24 have this number put on a string, but  
25 historically, this number, let's say, it's

1 No. 950, that has to correspond with a  
2 so-called public counter on the machine under  
3 the old law.

4 Part of the purpose of that was  
5 the voter, when the voter voted had some sense  
6 of security that he or she, in fact, was a  
7 number that corresponds to all those things  
8 and, of course, the vote there was totally  
9 anonymous so, you know.

10 MR. KOMUVES: That's an excellent  
11 point and would certainly be true in a  
12 precinct that had a single machine, you know,  
13 that would -- that wouldn't necessarily be  
14 happening in a machine that had multiple  
15 precincts, but there was that safeguard. That  
16 system, again, didn't have a "continuous  
17 spool" with the exact records of the vote you  
18 cast in human-readable form and this  
19 corresponding public record of the order in  
20 which it went into the machines.

21 So until the practices in  
22 New Jersey are adjusted accordingly, I can't  
23 support a continuous spool system because that  
24 would be contrary to the secrecy requirements  
25 of New Jersey law.

1                   Again, the remainder of my  
2 comments about the Edge really relate to the  
3 issue of testing and I covered them at length  
4 yesterday.

5                   It's, basically, the Public  
6 Advocate's position that given the amount of  
7 testing that was done on these machines, the  
8 14-hour vote and the 1200-vote test -- is that  
9 really enough of a sample size from which you  
10 can extrapolate that these two machines are  
11 going to work in general in the broader  
12 election? We would suggest that the answer is  
13 no.

14                   We've presented some of the  
15 scientific authorities, 2002 DSS (ph), the  
16 2005 DSB (ph), the mis-recommendations and the  
17 practices of California to basically say,  
18 Look, you know, we want to have machines in  
19 New Jersey that are reliable. We want  
20 confidence that these things are not going to  
21 break in the field or going to be easily  
22 tampered with. There are testing methods to  
23 do that.

24                   With respect to NJIT, and I  
25 realize they were given a particular scope of



1 work, but the amount of testing that was done  
2 just is not enough at this time that we can  
3 say that Sequoia has met its burden of proving  
4 that the machines are reliable and have been  
5 thoroughly tested.

6 So for these reasons, as well as  
7 the privacy reasons, we would recommend you  
8 deny certification.

9 CHAIRMAN WOODBRIDGE: Thank you  
10 very much.

11 Let me hold comments until after  
12 Penny, Professor Venetis has spoken.

13 Penny, you need to identify  
14 yourself for the court reporter and the  
15 record.

16 PROFESSOR VENETIS: Yes, I will.

17 My name is Penny Venetis,  
18 V-e-n-e-t-i-s. I am a Clinical Professor of  
19 Law at Rutgers Law School in Newark and the  
20 Co-Director of the Constitutional Litigation  
21 Clinic.

22 In that capacity, I am lead  
23 counsel in the lawsuit, *Gusciora v. Corzine*,  
24 that challenges on constitutional and  
25 statutory grounds the use of electronic voting

1 machines in New Jersey.

2 I would like to incorporate in my  
3 comments today the objections that I made  
4 yesterday and I just would like to add to  
5 those objections based on the testimony that  
6 was heard today and also based on the reports  
7 that were issued by the NJIT team concerning  
8 the AVC Edge printer.

9 CHAIRMAN WOODBRIDGE: The record  
10 should reflect the fact that Professor Venetis  
11 is going to incorporate, by reference, the  
12 comments she made yesterday during the public  
13 session with regard to the Sequoia Advantage.

14 PROFESSOR VENETIS: Additionally,  
15 I also would just like to state for the record  
16 that I'm planning on submitting a written  
17 record to the Committee by the time to do so  
18 ends, which has been -- I have been notified  
19 is Friday by the close of business. And I  
20 believe that's on the record.

21 Again, I would like to state my  
22 objections to the very short time period in  
23 which we all have had to review these  
24 materials and to comment on them.

25 The materials were made public

1 Friday after the close of business and there  
2 are hundreds and hundreds of pages of  
3 materials to go through so even though I plan  
4 on submitting a report, I would like to note  
5 my objection that the time period is very,  
6 very short.

7 Having said that --

8 CHAIRMAN WOODBRIDGE: Penny, if  
9 you do have documents in addition to providing  
10 the additional paper to the Attorney General's  
11 office, if you can also submit it in either  
12 pdf or Word readable version, that would be  
13 useful, too.

14 PROFESSOR VENETIS: And I would  
15 like to chat with you to find out -- I clearly  
16 would like to send a copy of whatever I file  
17 with the Attorney General's office to members  
18 of the Committee so if I could just get the  
19 details.

20 CHAIRMAN WOODBRIDGE: Standard  
21 procedure is it should go through the AG's  
22 office and then they will sends it to us.

23 PROFESSOR VENETIS: Okay.

24 CHAIRMAN WOODBRIDGE: It is sort  
25 of the same procedure we have with regard to

1 vendors; and that is, we don't take vendor  
2 communications. For reasons of integrity, we  
3 don't take direct communications on this  
4 issue.

5 PROFESSOR VENETIS: Okay.

6 Thank you of informing me of that.  
7 I will send all communications to the Attorney  
8 General's office.

9 CHAIRMAN WOODBRIDGE: Thank you.

10 PROFESSOR VENETIS: Just as the  
11 AVC Advantage is insecure, so is the AVC Edge.  
12 It has been decertified in a number of  
13 jurisdictions that have very, very rigorous  
14 standards for testing electronic voting  
15 machines.

16 The Edge was decertified in  
17 California, for one. And my understanding was  
18 that it was also decertified in Ohio.

19 New Jersey has no standards for  
20 certifying electronic voting machines so I  
21 would ask the Committee to look very closely  
22 at the fact that these machines have been  
23 decertified elsewhere.

24 Additionally, members of the  
25 Committee mentioned earlier, I believe, it was

1 the Chair that the voting machines at issue  
2 here, the DRE Edge, the Sequoia Edge has been  
3 certified in New Jersey.

4           Again, I would like to make clear  
5 that there are no standards in New Jersey,  
6 statutory standards for certifying electronic  
7 voting machines. They do not exist. Members  
8 of the certification committee have admitted  
9 that there are no statutory procedures and  
10 that you are operating on laws that were  
11 developed during the Depression to deal with  
12 mechanical voting machines, not electronic  
13 voting machines so the mere fact that a piece  
14 of paper exists that says the machine is  
15 certified does not mean in any way, shape or  
16 form that the software of these DREs was ever  
17 tested.

18           Additionally, my understanding of  
19 the NJIT team's work is that the software was  
20 not tested; that really was -- they ran mock  
21 elections, as described in the report and that  
22 there was no examination of whether or not the  
23 software is corruptible or was corrupted in  
24 any way, shape or form.

25           Again, these are important matters

1 that the Committee needs to keep in mind in  
2 making its evaluation.

3 As mentioned yesterday, we're  
4 dangerously close to the Legislature's  
5 January 1st, 2008 deadline for all voting  
6 machines to be equipped with the  
7 voter-verified paper ballot.

8 The NJIT has listed eleven ways  
9 that the Edge printers do not meet the  
10 criteria that was articulated by the Attorney  
11 General; therefore, on its face, these  
12 machines cannot and should not be certified by  
13 this committee.

14 Of particular note, are the  
15 failure to secure voter privacy. There were  
16 several issues that were raised by the NJIT  
17 team that I will discuss, but I would like to  
18 talk about the privacy issue that Mr. Komuves  
19 raised because that is a very, very critical  
20 issue that was raised during the trial that  
21 Judge Feinberg has been presiding over for the  
22 past two years.

23 Testimony was given during that  
24 trial by a representative of Sequoia  
25 discussing the reel-to-reel system. We raised

1 the issue and the judge noted in her written  
2 opinion, which I will provide to the  
3 Committee, that this poses a very, very  
4 serious problem given New Jersey law.

5 I don't need to repeat what  
6 Mr. Komuves discussed earlier, but that was  
7 certainly part of what was discussed in court  
8 and what the judge took issue with.

9 The fact that you can identify a  
10 voter and that that piece of paper is on the  
11 machine and that somebody actually reads the  
12 name of the voter out loud means that you can  
13 easily trace the voter to the voter-verified  
14 paper ballot on the "continuous spool."

15 One other factor came out today  
16 that shows even more how you can identify a  
17 voter using the "continuous spool"; and that  
18 was, the information given by Sequoia that  
19 voters who choose a different language will  
20 verify their vote in the language that they  
21 choose.

22 So if somebody chooses Chinese or  
23 chooses Sanskrit or chooses Greek, the vote  
24 will appear, the voter-verified paper ballot  
25 will appear in that language, which means that

1 somebody can easily trace that voter to the  
2 voter- verified paper ballot and that violates  
3 the secrecy requirements that are articulated  
4 in Title 19.

5           So, again, the Court took great  
6 issue with this matter. And I respectfully  
7 request that the Committee also look at this  
8 matter very, very carefully because that  
9 really is one of the basic requirements of  
10 voting, not only in the State of New Jersey,  
11 but in the United States, that you cast a  
12 secret ballot; that is one of the key ways to  
13 prevent voter manipulation, the selling of  
14 votes, all sorts of things that voting rights  
15 laws try to take care of or that election laws  
16 try to take care of.

17           Another issue concerning security  
18 breaches were pointed out by NJIT, and these  
19 were Exceptions 5 and 6, that dealt with the  
20 fact that you can remove the -- that you can  
21 easily manipulate the actual paper reel with  
22 the printer, as it is configured now.

23           The fact that you might be able to  
24 remove the printer and then keep that as that  
25 entire reel-to-reel as the universe of votes



1 and not replace the paper does not mean that  
2 the mechanism itself cannot be tampered with.  
3 You can easily lift off the cover of the black  
4 cover of the -- that protects the reel-to-reel  
5 system and manipulate the spool in some way.

6           So the fact that you might be able  
7 to take up the whole thing and save that as a  
8 record of all the votes that were cast does  
9 not in any way change the fact that you can  
10 actually manipulate the system and that there  
11 are no protections on that system.

12           I would suggest if the Committee  
13 has any questions about that, they can direct  
14 that to NJIT, but that is my understanding and  
15 that is something that the Committee should  
16 indeed be concerned with and that is not  
17 altered by the fact that you might be able to  
18 take the whole system off.

19           Along those lines, I would ask the  
20 Committee to consider something else. It is  
21 very important. And I believe Mr. Mahoney  
22 raised this issue. And I have some of the  
23 answers to the questions that Mr. Mahoney  
24 raised.

25           Sequoia says that their

1 recommended system for dealing with the  
2 completed spool is to replace the entire  
3 mechanism itself with an entirely new one,  
4 rather than to replace the paper.

5 Two points about that.

6 First of all, what was quoted to  
7 Judge Feinberg last year, and I verified this  
8 with my office during the break, is that each  
9 one of the printers cost \$1,000.

10 So what is -- what has been  
11 recommended is that every time you need to  
12 change the paper, which is every 120 votes,  
13 you replace the whole system with another  
14 \$1,000 system.

15 We're talking about taxpayer money  
16 here and that is a very, very expensive  
17 proposition.

18 It's also an expensive proposition  
19 to just go out and buy more voting machines.  
20 The price that was quoted to Judge Feinberg  
21 last year and that was brought out in  
22 testimony, and again, I confirmed this with my  
23 office during the break, is that each one of  
24 the Edge DRE's cost \$3,000.

25 Again, I don't believe that these

1 solutions were proposed to the Court. I know  
2 that they were not because it is not on the  
3 record that this is how you would deal with  
4 the replacing of a finished paper reel by  
5 spending \$1,000. And I truly believe that  
6 that is not what was negotiated with the  
7 Attorney General's office or with the Office  
8 of Management and Budget.

9 The Committee should really keep  
10 this in mind in determining whether or not  
11 this is really a viable option for the State  
12 of New Jersey that for every 120 votes to  
13 replace the entire -- the entire black box  
14 with another \$1,000 component.

15 This option means that if the  
16 statute and the guidelines recommend that a  
17 voting machine service 750 voters, that each  
18 voting machine would have to be -- would have  
19 to accommodate six of those boxes, which means  
20 that's \$6,000 per machine, which is a really  
21 astronomical rate and one that is, I believe,  
22 not something that the State has bargained for  
23 with Sequoia in its negotiations.

24 There were references made to the  
25 Edge being certified and used in Chicago.

1           Again, I reiterate the fact that  
2           there were serious problems in Chicago that  
3           made front-page headlines around the country,  
4           malfunctions.

5           Following that, there were public  
6           hearings in which Sequoia was accused of  
7           misrepresentation. And, again, we will submit  
8           those to the Committee for its review and  
9           those are relevant in determining whether or  
10          not any sort of representations that have been  
11          made to the group today or yesterday are,  
12          indeed, ones that are worthy of consideration.

13          There is also evidence that was  
14          presented at trial, which I will present to  
15          the Committee, that there were  
16          misrepresentations made to elected officials,  
17          the Freeholders of Mercer County by Sequoia;  
18          and that, the judge noted in her written  
19          report.

20          Additionally, Sequoia  
21          representatives said that the machines, that  
22          Edge's are used in Florida.

23          Well, the Committee should know  
24          that Florida took the lead in determining to  
25          scrap all of its DREs. Florida spent millions

1 of dollars on DREs. And after performing a  
2 careful study, decided that monitoring the  
3 DREs, which were ineffective, inefficient,  
4 broke down and were generally unreliable was  
5 simply too expensive and not cost efficient  
6 and they now exclusively are using optical  
7 scanners that count paper ballots.

8 Florida really took the lead.  
9 New Mexico followed. New Mexico also scrapped  
10 Sequoia machines and is now using optical  
11 scanners that count paper ballots.

12 And I would give to the Committee  
13 copies of various scientific studies that have  
14 been performed that led those states to  
15 conclude that it is better to use electronic  
16 scanners so that the Committee has it before  
17 them in making their consideration, but the  
18 Sequoia machines were specifically rejected by  
19 those states so -- with and without voter  
20 verified ballot paper components.

21 This is relevant to the  
22 Committee's consideration because Sequoia is  
23 urging the Committee and the State to spend  
24 additional money so that it can accommodate  
25 voters, rather than replacing the paper inside

1 of the boxes of the reel to reel.

2           Again, this is \$3,000 a DRE and  
3 \$1,000 a pop for the printer box, that is a  
4 serious expenditure.

5           Another problem that has been  
6 raised with the Edge that has been brought to  
7 the Committee's attention during the break is  
8 that it is not accessible to disabled voters.

9           There is an engineer, a computer  
10 scientist, who was one of the first people who  
11 developed voice recognition software and is a  
12 well-known, well-respected computer scientist  
13 by the name of Noel Runyon, who lives in  
14 California. He is also blind. He has  
15 attempted to vote on the Edge because that is  
16 what was in his voting jurisdiction. It took  
17 him well over 45 minutes and well close to an  
18 hour and a half to get through the very  
19 program that was demonstrated here and that is  
20 somebody who is a well-educated computer  
21 scientist.

22           Mr. Runyon, as a result of his  
23 difficulties working with using the Edge, he  
24 issued an expert report in the Gusciora  
25 lawsuit, but then he went on to publish a

1 report that was circulated widely that I will  
2 provide to the Committee discussing how  
3 incredibly difficult it was for him to operate  
4 the DRE and that is why I requested that the  
5 members of the Committee attempt on their own  
6 to operate the machine.

7           There was a very brief, I would  
8 say, a five-minute presentation, that was done  
9 by a Sequoia representative of how somebody  
10 who was visually impaired would use the  
11 machine, but I would respectfully request that  
12 members of the Committee sit down and try to  
13 do it on their own so that they can see how  
14 difficult it is to do.

15           I attempted to do it this morning  
16 and I had very, very serious problems. I got  
17 lost in the system and there were no  
18 instructions that told me how to do it. When  
19 a Sequoia rep. answered my questions, then it  
20 made it easier to navigate, but there are no  
21 actual instructions on how to navigate the  
22 system.

23           This applies to the Advantage, as  
24 well, one thing that is notable is the machine  
25 tells the blind voter to press the green key

1 or the yellow key or the red key. Again,  
2 somebody, who is visually impaired does not  
3 have the ability to recognize a green key from  
4 a yellow key or from a red key.

5 I respectfully request the  
6 Committee take this and Mr. Runyon's report  
7 into consideration.

8 There was earlier testimony from  
9 somebody from the State about accessibility  
10 for the disabled voter, but that was a very  
11 brief testimony and he was not able to answer  
12 any questions so I would like the committee to  
13 consider Mr. Runyon's report in addition to  
14 what has been presented so far.

15 There were representations made  
16 today, as there were yesterday, that there  
17 might be some ways to fix some of the  
18 exceptions that were noted by the NJIT team.

19 Nonetheless, I ask the Committee  
20 to consider only what you have before you.  
21 Sequoia was perfectly aware of the very tight  
22 deadline. They're aware of the  
23 January 1st, 2008 deadline and they failed to  
24 take care of some of the basic requirements of  
25 the guidelines that are required by the State.



1 These deal with security issues, exposed  
2 cables, failure to notify a poll worker of  
3 what the actual problems with the machine may  
4 be should the machine experience problems.

5 I -- during my testing of the  
6 machine this morning, I pulled out one of the  
7 cables that was supposed to operate the  
8 printer. The printer did indeed freeze. The  
9 technician who was here, it took him awhile to  
10 figure out what was wrong because there was no  
11 message telling him that that was the case.

12 Also, notably, and I don't know if  
13 the NJIT team noticed this, but there also was  
14 no buzzer or beeper or anything that would  
15 come on to notify a poll worker that there  
16 really has been a problem.

17 And given what has been  
18 highlighted as a problem, which is, that a  
19 voter may just walk away and the poll worker  
20 has no idea that there is a problem was listed  
21 under miscellaneous both today and yesterday  
22 under the discussion of the exceptions.

23 Well, that is a very serious  
24 problem because a voter who has very limited  
25 time may come in to cast his or her vote, if

1 for some reason there is an error of the  
2 machine, the machine freezes, the poll worker  
3 may be somewhere else and the voter may just  
4 walk away and that is certainly not something  
5 we want to encourage someone who has taken off  
6 from work or taken time off from taking care  
7 of their children to do. If they have made an  
8 effort to vote, they should be able to vote  
9 and a poll worker should be able to quickly  
10 learn what is necessary to fix the machine in  
11 order for the voter to complete his or her  
12 vote.

13                   Additionally, to the extent there  
14 has been a proposal that new software or  
15 software that is in development might solve  
16 some of the problem that were noted by the  
17 NJIT team, again, this software does not  
18 exist. Everybody has been aware of the tight  
19 deadlines and I respectfully request that the  
20 Committee does not extend its time or give any  
21 sort of time for the Sequoia people to fix the  
22 problems. They were aware of the problems.  
23 They knew of the guidelines. These problems  
24 should have been taken care of a while ago.

25                   One feature that wasn't

1 demonstrated today and which gives me great  
2 pause is the cards that activate the machines.  
3 I don't know whether or not the NJIT folks  
4 tested this part of the machine during a real  
5 election.

6           The machine is not activated,  
7 unless you put a smart card in. There have  
8 been several studies, including studies that  
9 were done at Princeton that show that the  
10 smart cards can be programmed to do all sorts  
11 of nefarious things to the machines and also  
12 to introduce viruses from machine to machine.

13           Now, those tests were done on the  
14 Diebold machine, but my understanding is that  
15 the same concept would apply to any system  
16 that uses an activation card.

17           Again, I respectfully request the  
18 Committee request that the machines be  
19 demonstrated as they would be demonstrated in  
20 an actual -- as they would be used in an  
21 actual election, rather than in a way that  
22 would not simulate what a voter experiences or  
23 what a poll worker might experience.

24           Having made these comments, I  
25 again encourage the Committee to look at the

1     totality of the circumstances concerning what  
2     has been presented.

3             The Sequoia team has failed to  
4     meet the standards that were articulated by  
5     the State; and for those reasons, on its face  
6     alone, the Committee should reject what  
7     Sequoia is presenting and propose alternative  
8     systems for voting be examined by the State.

9             Again, as I stated yesterday, in  
10    determining whether or not we want to give our  
11    hard-earned taxpayer money to Sequoia, we  
12    should consider several things.

13            I mentioned some of them  
14    yesterday, but I want to reiterate that this  
15    company does not have a very good track record  
16    of honesty. There are many public records of  
17    misrepresentation made to public bodies and  
18    millions of dollars spent on equipment that  
19    just didn't work.

20            And, also, the Committee should  
21    consider the fact that Sequoia is up for sale  
22    by its Venezuelan holding company and the  
23    future of the company is uncertain so that any  
24    misrepresentations that are made today aren't  
25    necessarily going to be carried out by whoever

1 buys the company.

2           And, again, this committee should  
3 consider that before giving dozens of millions  
4 of dollars to the company.

5           If the Committee has any  
6 questions, I would be happy to answer them.  
7 And if it has any questions of the NJIT team  
8 or the Sequoia folk based on what I said, I  
9 invite the Committee to ask those questions.

10           CHAIRMAN WOODBRIDGE: Thank you.

11           If I could just ask one question.

12           I assume your presentation is  
13 pretty much complete now?

14           PROFESSOR VENETIS: Yes, it is.

15           CHAIRMAN WOODBRIDGE: One thing I  
16 am trying to understand from the public input  
17 yesterday was there were several different  
18 people, who had several different solutions.  
19 In fact, we had one individual who sent us a  
20 long e-mail that she would prefer to go back  
21 to the judicial paper ballots. Some people  
22 yesterday, I believe testified that they  
23 wanted to go to ballots and scanners.

24           Is it your position that all DREs  
25 are inherently unacceptable for use by the

1 State of New Jersey?

2 PROFESSOR VENETIS: That is not my  
3 position at all. I am not a Luddite. The  
4 computer scientists that I've been working  
5 with for two years are not a Luddites.

6 They are in the unique position to  
7 actually point out when the voting public and  
8 the State should be concerned. And they have  
9 raised these issues concerning the Sequoia  
10 machines.

11 What I am saying is that the  
12 Committee should reject the systems that exist  
13 today because they do not meet the statutory  
14 specifications or the guidelines that have  
15 been promulgated recently by states for  
16 voter-verified paper ballot printers.

17 If you ask me, in my opinion,  
18 having worked on this issue now for many  
19 years, what I believe is the most effective  
20 and efficient system for voting, I would say a  
21 paper ballot with optical scanners and it's  
22 not because I can't back that up with any sort  
23 of scientific evidence. There have been many,  
24 many studies that have been done in the past  
25 six or seven years that really show that it is

1 the most cost effective, most effective system  
2 for -- and most accurate system for tabulating  
3 votes. And at the end of the day, you do have  
4 the paper ballot that can be used in the event  
5 of a random audit or in the event of a  
6 recount.

7 And, again, these studies are  
8 there for the general public and certainly for  
9 the Committee and I will present them to you.  
10 Several states decided to conduct these  
11 studies and used them as a basis for scrapping  
12 DREs that they spent millions of dollars on.

13 So before New Jersey takes the big  
14 step of spending our hard-earned taxpayer  
15 money on additional machinery, they really  
16 should consider many, many options. And I  
17 respectfully request that you not consider the  
18 Sequoia machines at all for the reasons that  
19 I've stated.

20 CHAIRMAN WOODBRIDGE: Thank you  
21 very much.

22 PROFESSOR VENETIS: Thank you.

23 CHAIRMAN WOODBRIDGE: Before I  
24 turn it over to the representatives from  
25 Sequoia to comment, as they choose to, is

1 there any comment that the NJIT  
2 representatives would like to present?

3 MR. DARER: No.

4 CHAIRMAN WOODBRIDGE: No comment.  
5 Okay.

6 Are there any comments that the  
7 Sequoia representatives would like to make for  
8 the record?

9 MR. ROMEI: Yes, Mr. Chairman,  
10 just a few. It has been a long day so I will  
11 try to keep this brief.

12 In terms of the Public Advocate's  
13 comments, first of all, many of his comments  
14 went to procedures, matters of local  
15 procedure, which, obviously, are beyond the  
16 scope of this hearing; second of all, both the  
17 Public Advocate and Ms. Venetis kept talking  
18 about the burden of proof. This isn't a  
19 trial. We don't have a burden of proof.  
20 We're here to give information to the  
21 Committee; that point should be clarified on  
22 the record.

23 (Reporter requested that Mr. Romei  
24 go to the podium to speak where he can be  
25 better heard.)



1                   CHAIRMAN WOODBRIDGE:  Incidentally,  
2  the reporter is suggesting that you continue  
3  and go on out the door.

4                   MR. ROMEI:  Thank you for  
5  clarifying that.

6                   CHAIRMAN WOODBRIDGE:  Actually, I  
7  can hear you better from there than I can over  
8  there.

9                   MR. ROMEI:  I am not surprised,  
10 the acoustics for some reason...

11                   The third point I want to make,  
12 Sequoia was just concerned that we emphasize  
13 that these printed paper trail ballots,  
14 whether they be the "cut and drop" or the  
15 "scroll" are kept within the control of  
16 responsible public officials, the same public  
17 officials that would be enforcing the other  
18 procedures.  So in terms of identification  
19 issues that, you know, ought to be kept in  
20 mind.

21                   Turning to Ms. Venetis's comments,  
22 again, we -- we're going to stand, for the  
23 most part, on the testimony that has been  
24 given here today.

25                   For example, the buttons on the

1 audio device are shaped, as well as colored  
2 for use by the visually impaired. Ms. Venetis  
3 neglected to emphasize that, but that happens  
4 to be the case.

5 There were also a number of other  
6 issues, for example, concerning tampering with  
7 the machines where Sequoia has testified  
8 extensively about seals and locks. We're  
9 going to stand on our prior testimony.

10 There are just two other points I  
11 wanted to correct.

12 First of all, was the issue of  
13 decertification in California.

14 What happened in California is  
15 then Secretary of State Shelley decertified  
16 all DREs. Most DREs, other than those of one  
17 vendor, not Sequoia, were then promptly  
18 recertified for use under certain conditions.  
19 Most of those conditions pertained to local  
20 procedural safeguards for security.

21 Sequoia's machines were in no way  
22 singled out for decertification.

23 Second of all, in Ohio, Sequoia  
24 deliberately allowed their certification to  
25 lapse because they do not currently have

1 customers in Ohio that would require that  
2 certification.

3 I would ask just for a moment of  
4 time just to confirm that there are no further  
5 comments.

6 CHAIRMAN WOODBRIDGE: Certainly.

7 MR. SMITH: Mr. Chairman, I just  
8 have one comment to make.

9 The Public Advocate made a comment  
10 that he could not recommend certification of  
11 the equipment of any "spool-to-spool" or  
12 "reel-to-reel" VVPAT until the procedures  
13 changed in New Jersey.

14 I would like to call the  
15 Committee's attention to the regulations,  
16 VIII. Post-Election Procedures, clause F.  
17 It's on page 12. And it states, If a county  
18 employs a "Continuous Spool" VVPRS, it shall  
19 conduct any audit or recount in accordance  
20 with the procedures established by LPS to  
21 fully protect the secrecy of all votes cast.  
22 Such procedures may include, but not be  
23 limited to, cutting the spool-to-spool paper  
24 roll into individual paper records and  
25 restricting public access to the uncut paper

1 roll.

2                   Just like omitting the shape of  
3 the buttons, the commenters omitted that to  
4 assess and determine someone's vote, you have  
5 to get access to the tape. It's not just  
6 taking a list down, watching how people vote  
7 in what order and documenting that somehow on  
8 a little secret list that you would spuriously  
9 sitting in the corner and make, assuming the  
10 poll workers let you. And by the way, if you  
11 were off by just one, well, it's all for  
12 naught.

13                   You've got to get access to the  
14 tape. And even without specific procedures  
15 that are required by New Jersey law, the  
16 public is not given access to these tapes.  
17 They're given access only to sworn and  
18 oftentimes deputized judges of election and  
19 poll workers who do the 1 percent to 5 percent  
20 recount.

21                   Once again, the tape that this  
22 spurious individual or individuals may want,  
23 would also have to be part of a 1 percent or 5  
24 percent recount so there is a 99 percent  
25 chance or a 95 percent chance, depending on

1 what New Jersey adopts as its post-election  
2 audits, that you won't get the tape that you  
3 want.

4 With that clarification, my  
5 comments are completed.

6 I think Mr. Chagaris is going to  
7 close for us.

8 CHAIRMAN WOODBRIDGE: Yes.

9 Go ahead.

10 MR. CHAGARIS: Two closing points.

11 First, as to the issue raised by  
12 the Public Advocate, there was mention made  
13 that the criteria was not such that were based  
14 on accepted scientific practices, that may or  
15 may not be true. However, in the NJIT report  
16 itself, it indicates -- and that's on page 3  
17 to the Advantage report, it says, and I'll  
18 quote for the record, Testing was developed  
19 and performed based on accepted scientific  
20 practices and methodologies.

21 So what NJIT did was consistent  
22 with reasonable scientific practices. And  
23 what they showed is that the two core tests  
24 were satisfied by the Edge; and that is, a  
25 verifiable vote viewable in the paper record

1 and that the vote tallied was confirmed four  
2 ways.

3                   And I might say, as a corollary to  
4 that, the Administrative Director of  
5 New Jersey's ADA program certified or  
6 testified that this machine met New Jersey's  
7 accessibility standards.

8                   So I think in those three very  
9 significant respects, this machine passed with  
10 flying colors. The exceptions are just minor  
11 adjustments that can be easily rectified, as I  
12 think was testified to.

13                   And then finally, or next to  
14 finally, reference was made by the  
15 Public Advocate as to the undisclosed use of  
16 disclosed or undisclosed hardware or software;  
17 that's not technically in the certification,  
18 that appears on the title certification on  
19 page 11 of the criteria, but that has been  
20 satisfied by the Applicant that all software  
21 and hardware in these machines and devices  
22 have been disclosed.

23                   In sum, these machines have been  
24 used for a long time in New Jersey. The sky  
25 is not falling. They have been certified to

1 by NJIT, who conducted exhaustive tests. And  
2 in all significant ways, they have passed  
3 those tests. And I think that warrants  
4 certification or recommendation by this  
5 Committee for certification.

6 Thank you.

7 CHAIRMAN WOODBRIDGE: Okay.

8 Keep in mind, if there are any  
9 further comments, they are going to have to be  
10 restricted to comments recently made.

11 Mitch, do you have a comment?

12 MR. DARER: I'm sure Arthur didn't  
13 mean that NJIT certified. I think that was a  
14 phrase he used.

15 CHAIRMAN WOODBRIDGE: And the  
16 record will so note.

17 Ms. Venetis, a short, to-the-point  
18 comment?

19 PROFESSOR VENETIS: Yes, briefly.

20 Two points, well, three actually.

21 One, I never said, I never used  
22 the language "burden of proof" in my comments.

23 The second is that the components  
24 on the mechanism that a visually impaired  
25 voter would use also have shapes, that's true,

1 but there are two triangles, a green and a  
2 yellow.

3 So, again, I would invite members  
4 of the Committee to close their eyes and try  
5 to vote on it and see for themselves whether  
6 or not it is feasible, whether or not it is  
7 accessible to them.

8 We also didn't hear back on how  
9 the voter would review the voter-verified  
10 paper ballot or change something if the ballot  
11 didn't reflect his or her choices.

12 And finally, I just want to  
13 emphasize, on the issue of voter secrecy, yes,  
14 Sequoia is right that somebody with nefarious  
15 goals would have to get access to the tapes,  
16 that is true, but for as long as there has  
17 been voting, there has been vote tampering;  
18 that is why when you look at election law  
19 statutes, they take up entire bookcases.  
20 New Jersey Code, Title 19 is in two books.

21 There are all sorts of safeguards  
22 to make sure that even sworn public officials  
23 do not have access to information that might  
24 harm the voter or the integrity of the vote  
25 because, I hate to say this, and I don't think



1 it's true of the vast majority of public  
2 officials, but there are some corrupt public  
3 officials.

4 We need to be able to protect the  
5 voter and the integrity of the vote against  
6 those corrupt public officials who might wish  
7 to manipulate the vote so I ask the Committee  
8 to keep that in mind in making it's  
9 determinations.

10 CHAIRMAN WOODBRIDGE: Thank you,  
11 Ms. Venetis.

12 Are there any comments of Sequoia  
13 to any of the four points made by the  
14 Professor?

15 MR. ROMEI: No.

16 CHAIRMAN WOODBRIDGE: Thank you.  
17 Seeing no comments by Sequoia or  
18 anyone else, I am going to officially close  
19 this hearing for today.

20 Will a technical representative of  
21 Sequoia be present tomorrow?

22 MR. SMITH: Yes, sir. A member of  
23 our technical staff will be here.

24 CHAIRMAN WOODBRIDGE: We  
25 appreciate your patience.

1                   There are a few items of  
2 information we requested that we would like to  
3 make sure we get by Friday and I assume you  
4 will provide us with those.

5                   The representative from NJIT has  
6 one more comment.

7                   MR. DARER: Well, I don't like to  
8 leave an open-ended question. Earlier there  
9 was a question: How long did the 1200-vote  
10 test take?

11                   Can I make Advantage since I have  
12 it in front of me?

13                   CHAIRMAN WOODBRIDGE: Yes, sir.

14                   MR. DARER: Advantage took 7 hours  
15 and 24 minutes; and, on Edge, it took 16 hours  
16 and 39 minutes.

17                   CHAIRMAN WOODBRIDGE: The record  
18 should so note it.

19                   If there are no other comments, I  
20 officially close the hearing and thank you  
21 very much for attending.

22                   We will reconvene tomorrow at  
23 10:00. Take a look at the third and final  
24 contestant, the Avante Vote-Trakker.

25                   Thanks again.

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16
- 17
- 18
- 19
- 20
- 21
- 22
- 23
- 24
- 25

(Time noted: 4:52 p.m.)

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25

C E R T I F I C A T E

I, ELLEN MARIE GUMPEL, a Certified  
Shorthand Reporter, Registered Professional  
Reporter, Certified Realtime Reporter and  
Notary Public of the States of New York and  
New Jersey, do hereby certify the foregoing to  
be a true and accurate transcript of my  
original stenographic notes taken at the time  
and place hereinbefore set forth.

-----  
ELLEN MARIE GUMPEL, C.S.R., R.P.R., C.R.R.

Dated:

<b>A</b>			
<b>abbreviated</b>	181:10,21	101:23 103:9	<b>activities</b>
9:8	186:5 187:19	159:6 219:19	157:7
<b>abilities</b>	188:21 192:2	<b>according</b> 47:7	<b>actual</b> 32:12
136:24	198:18	54:24 172:22	42:18 44:23
<b>ability</b> 31:6	201:13 202:5	186:11,18	45:18 153:8
31:10 47:11	202:15 208:9	<b>accordingly</b>	200:21
62:11 84:16	216:18 218:8	191:22	207:21 209:3
113:10 146:9	<b>above</b> 75:15	<b>account</b> 49:10	211:20,21
208:3	<b>absolutely</b>	85:23	<b>actually</b> 26:19
<b>able</b> 29:4	102:14	<b>accounts</b> 80:23	48:6 52:14
32:11,17	<b>accents</b> 34:18	<b>accuracy</b> 13:7	57:19 73:7
39:11 41:16	<b>accept</b> 64:2	117:15	74:24 101:3
47:15 62:17	132:19	157:13	104:3 113:7
65:23 99:6	<b>acceptable</b>	<b>accurate</b> 15:3	116:13 124:9
111:1 120:18	9:21 33:23	40:9 60:6,6	130:4 143:15
128:1 131:16	109:15	76:15 88:9	153:7,12
134:19	<b>accepted</b> 50:23	112:19	168:10
136:15 150:1	53:14 107:20	113:18 215:2	178:25
176:4 179:24	109:5 110:10	228:8	199:11
182:25	119:1 122:8	<b>accurately</b>	201:10 214:7
200:23 201:6	132:7,12,16	13:2,4 74:5	217:6 223:20
201:17	135:20	99:19	<b>ADA</b> 3:7 30:25
208:11 210:8	221:14,19	<b>accused</b> 204:6	222:5
210:9 225:4	<b>access</b> 137:4	<b>accustomed</b>	<b>add</b> 126:20
<b>about</b> 26:2	152:4 159:12	56:17	133:10,14
30:5,18 39:7	219:25 220:5	<b>achieve</b> 45:7	194:4
45:5,10	220:13,16,17	156:4	<b>added</b> 180:5,23
49:14 59:14	224:15,23	<b>acknowledges</b>	<b>addition</b> 86:1
61:11,15,17	<b>accessed</b> 95:17	13:10	91:11 94:5
76:7 82:11	96:7	<b>acoustics</b>	129:15 178:7
86:7 87:25	<b>accessibility</b>	217:10	195:9 208:13
89:2 90:13	55:14 74:2	<b>across</b> 87:9	<b>additional</b>
99:10 103:16	208:9 222:7	126:18	19:10 23:5
106:12	<b>accessible</b>	<b>act</b> 31:2 140:7	25:13 47:4
112:23 123:3	14:12 32:21	182:11	49:17 59:12
145:21	49:25 50:10	<b>actions</b> 23:19	59:20 93:18
151:20	92:5 95:22	23:22	94:1 95:24
168:18	106:9 206:8	<b>activate</b> 211:2	96:2 120:13
169:11 173:4	224:7	<b>activated</b>	126:15
173:12	<b>accommodate</b>	15:25 23:11	133:23 136:7
175:12	52:16 87:23	29:7 32:3	161:13
178:24	203:19	130:18 211:6	195:10
179:22	205:24	<b>activating</b>	205:24
180:10	<b>accomplished</b>	22:12	215:15
	25:4	<b>activation</b>	<b>Additionally</b>
	<b>accordance</b>	22:10 211:16	194:14

196:24	155:9,10	34:16 38:1	34:13 181:4
197:18	167:2 170:15	38:14,19	195:21
204:20	173:8 174:24	40:15 45:15	<b>ahead</b> 60:4
210:13	175:6 178:10	59:9 62:16	107:20
<b>address</b> 12:13	178:16,17	87:14 91:6	113:16
41:2 183:4	179:1,4,22	92:20 101:14	166:15 181:8
<b>addressed</b> 10:7	180:11,15,20	107:4 111:6	221:9
<b>adequate</b> 22:6	180:22	112:1 115:6	<b>aid</b> 125:1
<b>adhesive</b>	182:22 188:6	122:14	<b>aim</b> 61:16
141:15	194:13	132:23 134:1	<b>aims</b> 98:9
<b>adieu</b> 8:15	196:11	135:11 142:2	<b>air</b> 164:5
11:15 61:5	207:23	144:7 145:25	<b>alert</b> 52:19
<b>adjust</b> 97:20	221:17	145:25	<b>algorithm</b>
98:8	226:11,14	152:18	112:4 138:10
<b>adjusted</b>	<b>Advocate</b> 7:17	160:21 163:2	138:14,16
191:22	93:22 165:12	169:21 170:1	<b>algorithms</b>
<b>adjustments</b>	180:10	180:19	138:2,5
174:25 175:4	181:11,19	181:14	139:13,14
222:11	188:3 216:17	182:14 184:1	<b>allow</b> 21:25
<b>administering</b>	219:9 221:12	185:12	31:25 32:1
15:3	222:15	187:21	57:22,24
<b>Administra...</b>	<b>Advocate's</b>	191:16 192:1	62:23 64:1
222:4	192:6 216:12	194:21 197:4	94:4 117:14
<b>Administrator</b>	<b>affected</b>	197:25 200:5	155:4 163:14
3:7 31:1	149:25	202:22,25	<b>allowable</b>
<b>admitted</b> 197:8	<b>affiliations</b>	204:1,7	121:4
<b>admonition</b>	44:19	206:2 208:1	<b>allowed</b> 58:17
166:14	<b>after</b> 9:5	210:17	96:10 99:17
<b>Adolph</b> 4:6	11:18 40:23	211:17,25	218:24
<b>adopts</b> 221:1	45:8 49:14	212:9 213:2	<b>allowing</b> 41:6
<b>advanced</b> 48:2	54:6 58:2,7	215:7 217:22	56:12
<b>advances</b> 133:4	86:7 103:12	220:21 224:3	<b>allows</b> 16:3
<b>Advantage</b>	130:17	226:25	32:4 67:15
15:10 16:14	131:12,12	<b>against</b> 41:1	98:25 167:22
16:15 21:17	147:12	42:1,24 63:7	<b>alluded</b> 143:14
22:3 25:25	150:22 173:9	113:8 225:5	<b>almost</b> 41:11
26:6 49:5	175:13	<b>Age</b> 40:17	<b>alone</b> 212:6
64:14 82:18	193:11 195:1	<b>AGENDA</b> 3:2 4:2	<b>along</b> 67:3
82:22,24	205:1	<b>ago</b> 124:10	110:4 153:2
83:10,16,19	<b>afternoon</b> 91:5	210:24	201:19
83:24 94:9	157:10	<b>agree</b> 167:10	<b>aloud</b> 185:16
94:13,17,19	<b>AG</b> 177:5	182:5	<b>alphabetic...</b>
103:20,23,25	<b>again</b> 5:5 9:18	<b>agreement</b>	36:22
111:13 120:4	12:16 17:10	155:6,11,16	<b>alpha-numeric</b>
120:6 140:1	20:15 25:2	<b>agrees</b> 13:1	36:19
140:2 145:12	25:10 30:21	<b>AG's</b> 29:20	<b>already</b> 14:4

46:8,16 49:4 64:11 68:10 86:5 93:22 105:22 123:20 147:17 155:15 158:21 <b>altered</b> 201:17 <b>alternative</b> 130:15,16,20 212:7 <b>although</b> 21:24 22:7 42:17 64:15 105:23 119:13 181:21 <b>always</b> 34:24 66:21 95:7 114:13 116:9 <b>ambient</b> 102:12 <b>amenable</b> 157:1 <b>Americans</b> 31:1 <b>among</b> 45:25 170:2 <b>amount</b> 10:19 49:8 53:19 85:21 170:2 170:5 192:6 193:1 <b>ample</b> 64:23 <b>analogous</b> 140:4 <b>analysis</b> 7:1 42:8 120:19 <b>Andy</b> 3:12,20 37:18,19,24 68:18 152:20 <b>and/or</b> 70:22 77:6 120:20 155:3 <b>angles</b> 99:18 <b>anonymous</b> 191:9 <b>another</b> 24:6 57:12 113:23	121:12 147:1 148:6 150:1 162:22 185:12 190:1 200:17 202:13 203:14 206:5 <b>answer</b> 30:7 53:3 71:9 89:16 115:19 123:16 168:11 170:18 171:14 192:12 208:11 213:6 <b>answered</b> 42:16 207:19 <b>answers</b> 44:19 163:19 166:1 166:4 201:23 <b>anybody</b> 71:7 93:9 129:3 151:19 163:14 164:17 <b>anybody's</b> 92:8 <b>anyhow</b> 85:13 <b>anymore</b> 54:23 <b>anyone</b> 32:16 177:23 225:18 <b>anything</b> 57:23 110:8 113:9 113:24 134:25 139:4 145:5,7 165:19 166:10 186:1 188:16,16 209:14 <b>anywhere</b> 32:7 71:1,5 147:14 <b>apologize</b> 149:15 171:7	<b>apparently</b> 58:23 172:22 188:6 <b>appear</b> 37:12 38:12 39:2 101:4 199:24 199:25 <b>appeared</b> 114:11,12 <b>appearing</b> 181:12 <b>appears</b> 19:14 36:18 38:22 55:2 93:13 143:25 222:18 <b>appended</b> 112:7 <b>apple</b> 174:16 <b>apples</b> 26:12 26:13 <b>applicable</b> 36:2 44:8 137:14 139:21,22 <b>Applicant</b> 222:20 <b>application</b> 138:5 <b>applications</b> 74:22 <b>applies</b> 207:23 <b>apply</b> 75:8 139:24 140:2 211:15 <b>appreciate</b> 34:2 146:19 172:25 176:7 176:8,12 178:21 225:25 <b>appreciated</b> 65:25 <b>approaches</b> 73:3 <b>appropriate</b> 7:18 29:24	156:10 181:5 <b>approval</b> 139:21,24 155:20 <b>approve</b> 137:22 137:24 139:4 <b>approved</b> 64:5 104:1 112:10 137:12,18 138:4,9,15 138:23 139:15 172:15,16,20 172:21 <b>approves</b> 138:11 <b>architect</b> 65:13 <b>architecture</b> 146:9 <b>area</b> 53:6 <b>areas</b> 53:10 100:10 <b>aren't</b> 11:7 77:23 85:16 153:25 175:23 212:24 <b>argue</b> 84:9 <b>argument</b> 87:19 <b>Ari</b> 3:15 40:18 43:7,12 <b>Aridaman</b> 3:15 <b>Armory</b> 1:13 <b>around</b> 58:1 62:25 63:10 167:1 204:3 <b>arrive</b> 180:24 <b>Arthur</b> 4:7 223:12 <b>articulated</b> 198:10 200:3 212:4 <b>ascending</b> 48:20 79:6 117:21
--	---	--	---

<b>asked</b> 40:24 157:9 163:12 180:10	203:21 <b>ATMs</b> 139:3 <b>attach</b> 121:5 <b>attached</b> 31:21 153:22 <b>attachment</b> 103:1 <b>attempt</b> 38:16 82:5 207:5 <b>attempted</b> 63:11 135:6 206:15 207:15 <b>attempts</b> 89:21 <b>attend</b> 7:17 <b>attended</b> 171:22 <b>attending</b> 226:21 <b>attention</b> 10:24 20:2 55:14 96:5 206:7 219:15 <b>attorney</b> 1:2 5:22 6:4 10:17 11:24 40:24 42:18 61:2 85:10 92:23 104:22 123:20 140:9 151:2 154:16 155:19, 20, 24 156:13 172:20 175:20 176:18 177:9 177:21 178:5 180:7, 25 195:10, 17 196:7 198:10 203:7 <b>audience</b> 7:11 7:11 77:23 164:13 <b>audio</b> 5:5 31:15 32:14	32:20 34:12 34:20 35:6, 7 36:11 39:6, 8 39:11 40:2, 5 42:14 52:18 55:18, 25 74:4 128:4 128:17, 24 218:1 <b>audio-voting</b> 127:25 128:1 <b>audit</b> 13:5 14:17 52:9 52:13 84:23 139:11 148:18, 25 157:25 158:2 158:4, 10 159:6 215:5 219:19 <b>auditability</b> 13:8 <b>auditing</b> 120:19 127:23 129:22 <b>audits</b> 85:12 221:2 <b>authenticates</b> 112:8 <b>authorities</b> 192:15 <b>authority</b> 161:19 183:12, 21, 24 184:12 185:11 188:14 189:18, 21 190:10 <b>authorization</b> 58:25 <b>authorized</b> 95:18 96:8 137:5 <b>auto</b> 58:10, 12	<b>automated</b> 80:7 <b>available</b> 21:10 59:12 70:2 97:4 104:4 111:2 111:9, 11 120:5 121:19 121:20 125:15, 17 127:1 145:1 149:7 150:2 <b>Avante</b> 226:24 <b>AVC</b> 3:9, 17 46:17 194:8 196:11, 11 <b>Avenue</b> 1:22 <b>avoid</b> 23:6 86:22 87:5 88:12 <b>awaiting</b> 23:17 155:20 <b>aware</b> 103:1 208:21, 22 210:18, 22 <b>away</b> 209:19 210:4 <b>awful</b> 10:11 <b>awhile</b> 209:9 <b>A-N-D</b> 36:24 <b>a.m</b> 1:16
		<b>B</b>	
		<b>back</b> 5:5 6:16 8:7 11:3 17:3, 4, 9, 10 18:9, 22 19:20 20:24 24:11, 13 28:2, 4 29:9 29:23 30:21 31:18 32:10 37:22 40:4 59:22 84:21 84:21 90:15 91:5 98:14 111:6 115:4	



121:6,14	79:5,10,12	152:17 153:2	221:19
134:1 135:8	81:2,19	153:7 173:6	<b>baseline</b> 162:4
141:6 144:23	89:12,15	182:2 184:20	<b>basic</b> 126:16
145:24	94:7 98:19	184:21 205:7	126:17,19
147:13	99:19 100:7	205:11	200:9 208:24
164:22 165:3	108:11,14	213:21,23	<b>basically</b> 9:21
179:13	109:19 110:8	217:13	35:8 46:18
213:20	110:9,12,19	<b>bar</b> 160:12	98:9 100:11
214:22 224:8	110:20	<b>barcode</b> 18:20	185:5 188:20
<b>background</b>	114:13 117:9	19:19 48:22	189:22 192:5
18:16	117:17,20,25	79:9 81:2,17	192:17
<b>backup</b> 29:2	118:2,25	84:11,12,18	<b>basis</b> 63:10
75:4 156:10	119:3 120:18	107:20	127:15
<b>back-space</b>	121:3,7,18	109:13,19,22	215:11
37:2	123:4,25	110:4,11,13	<b>battery</b> 75:4,8
<b>bag</b> 14:14	124:15 127:4	110:20,25	<b>because</b> 5:4
<b>balanced</b> 44:17	127:24 129:1	111:20,23	9:5,9 17:20
<b>ballot</b> 5:13	129:14	112:18 113:7	21:9,14,25
16:5,9,18,19	130:25 131:2	113:9,17,24	23:24 25:12
17:17 18:9	131:14,19	115:12,17	26:13,25
18:14,25	132:13 133:2	116:11,12,16	27:14 33:13
19:6,12,17	133:2,24,25	116:18,20	34:12 39:13
20:11,12,19	134:14,22	117:23	44:8 55:1
20:20,22	135:18 150:2	132:13	65:12 66:12
21:14,19	153:8 158:2	135:21	68:12,14,24
26:1,7 28:13	173:7,22	158:20	79:3 81:16
31:24 32:12	198:7 199:14	<b>barcodes</b> 41:22	83:18 84:2
32:13 34:13	199:24 200:2	44:2 45:19	90:19 108:17
34:16 35:1,2	200:12	82:14 116:7	116:14,16
35:13 38:4	205:20	116:22,23	157:9 159:2
38:11,18	214:16,21	117:2	164:5 165:22
39:2,3,12	215:4 224:10	<b>bargained</b>	169:3 170:2
44:7,11,13	224:10	203:22	174:5,6
44:13 47:10	<b>ballots</b> 19:16	<b>bars</b> 116:9,10	179:1 182:8
47:24,25	35:15 40:19	<b>base</b> 33:8 75:9	183:3 190:6
48:11,14,19	43:1,8,16	105:15 135:8	191:23
48:24 49:1	44:10 45:5	136:9 141:18	198:19 200:8
50:22,25	45:18 49:23	157:3 180:3	203:2 205:22
53:14,20	53:13 66:8	180:22	206:15
55:10 62:10	91:17,19	<b>based</b> 14:23	209:10,24
64:18 65:6,9	98:18 108:14	31:3 32:8	214:13,22
65:19,24	108:15,23	113:13	218:25
66:2,4 67:22	128:10	129:19	224:25
74:6 76:24	131:25 132:8	180:20,20	<b>becomes</b> 14:15
77:4,6 78:5	132:10,11	194:5,6	31:24 93:3
78:13,19,21	147:12	213:8 221:13	138:18

152:15	85:9 86:10	116:12 132:7	140:6 141:1
157:24	86:12 93:5	137:2 145:9	141:9 155:17
<b>beeper</b> 209:14	93:21 94:20	148:15 150:6	165:14
<b>before</b> 5:25	98:5 103:22	151:5 156:8	173:25
29:5 34:11	105:2 121:13	156:17	178:12,13
34:17 35:17	124:7 125:5	159:17	209:21
38:16 60:1	125:11 130:4	185:23	216:16
61:9 66:7	139:25	<b>beyond</b> 15:15	<b>bottom</b> 17:23
67:20 73:21	140:22	56:15 166:11	18:2 19:19
90:8 93:15	143:24	216:15	54:9 63:4
122:21	145:14	<b>big</b> 215:13	116:8 132:11
133:17	149:10 150:3	<b>binder</b> 188:11	<b>bound</b> 183:15
134:13 145:4	155:18	<b>bit</b> 9:8 23:23	185:7
149:20 157:9	158:21	33:2 36:16	<b>box</b> 11:6,8
158:22	160:23 161:3	61:13 86:5	70:20,23
165:20	163:20	86:11 90:20	128:17
168:25	164:10	173:24	152:25 153:9
170:12	177:17	<b>bites</b> 174:15	153:22
176:16	179:13 180:9	<b>black</b> 58:15	203:13 206:3
205:16	188:20	201:3 203:13	<b>boxes</b> 203:19
208:20 213:3	194:20	<b>blank</b> 32:4	206:1
215:13,23	196:25	<b>blind</b> 31:15	<b>Bradley</b> 183:10
<b>beginning</b>	201:21	206:14	<b>Braille</b> 31:20
25:19 52:24	202:25 203:5	207:25	<b>breaches</b>
72:25	203:21	<b>board</b> 15:22	200:18
<b>behalf</b> 68:18	213:22	32:17 125:4	<b>break</b> 24:23
<b>behind</b> 47:16	214:19	134:10	25:10 61:8
62:19,24	<b>believed</b> 92:12	<b>board-worker</b>	61:11,16
90:20 99:7	<b>beneath</b> 158:17	125:4,9	90:14 98:17
99:17,18	<b>benefit</b> 111:25	<b>bodies</b> 212:17	109:1 153:9
182:25	<b>Bergen</b> 7:8	<b>book</b> 28:7	164:10,22
<b>being</b> 16:15,17	<b>best</b> 6:18	183:11,15	192:21 202:8
47:22 78:12	99:23 113:12	188:13	202:23 206:7
100:7 107:7	176:5 178:3	190:23	<b>Brennan</b> 186:7
114:22	<b>better</b> 36:16	<b>bookcases</b>	186:19 187:7
115:25	102:4 144:21	224:19	<b>brief</b> 8:20
116:16	205:15	<b>books</b> 224:20	98:17 207:7
118:16	216:25 217:7	<b>boot</b> 23:16	208:11
137:14 142:9	<b>between</b> 16:3	<b>booth</b> 17:21	216:11
178:21 188:5	33:15,17	28:11 94:22	<b>briefly</b> 223:19
203:25	52:5 64:17	<b>both</b> 18:19	<b>bright</b> 22:14
<b>believe</b> 16:2	68:11,15	28:2 29:12	<b>bring</b> 10:24
58:10 59:12	71:15 83:16	45:23 46:1	29:9 128:12
64:11,16,20	86:11,12	46:22 68:21	183:10
74:23 76:2	95:7 97:25	74:22 75:8	<b>brings</b> 153:18
76:10 79:21	108:10 110:3	85:4 94:14	<b>brisker</b> 90:19

<b>broad</b> 33:8	<b>B.7</b> 74:17	<b>candidates</b>	26:7 57:12
<b>broader</b> 192:11	<b>B.8</b> 75:19	56:20	57:13 73:6
<b>broke</b> 205:4		<b>cans</b> 116:7	91:21 92:21
<b>broken</b> 52:6	<b>C</b>	<b>can't</b> 17:22	96:1 105:5,7
148:16	<b>cable</b> 51:9,10	22:8 64:15	106:2,3
<b>brought</b> 202:21	74:21 105:14	64:21 80:20	137:8 157:24
206:6	105:15 106:4	85:9 88:2	158:12
<b>Budget</b> 203:8	140:18,19	123:16	<b>cartridges</b>
<b>building</b> 11:1	141:17	144:20	58:22 60:17
11:2,3	<b>cables</b> 141:21	145:18	73:10 92:10
<b>built</b> 50:5	141:22 209:2	182:21,22	92:11 96:2
104:19	209:7	187:16	105:3 106:13
<b>bulk</b> 181:9	<b>calculate</b> 90:6	191:22	<b>case</b> 19:15
<b>burden</b> 184:24	<b>calculated</b>	214:22	20:4 48:7
193:3 216:18	50:17 51:1	<b>capabilities</b>	55:1 64:22
216:19	89:14 119:4	124:1	80:6 83:11
223:22	122:3,11	<b>capability</b>	93:5 100:8
<b>business</b>	<b>California</b>	136:18	114:13 143:6
194:19 195:1	71:10 87:10	153:12 164:6	145:5 148:3
<b>button</b> 16:5	93:6 160:24	<b>capable</b> 96:17	157:23 173:8
17:12 18:8	161:11	96:19	183:17 184:8
22:18 23:25	192:17	<b>capacity</b> 25:21	185:3 209:11
24:3 31:17	196:17	193:22	218:4
31:18 47:25	206:14	<b>card</b> 22:12,13	<b>cases</b> 73:5,6
100:13 133:2	218:13,14	22:19,21,24	126:20
134:12	<b>call</b> 24:20	23:4,11 24:5	150:11
147:17	27:1 28:20	24:6 29:6,8	<b>cast</b> 18:13
<b>buttons</b> 31:16	35:6 87:19	211:7,16	19:15 21:14
31:19 217:25	102:11	<b>cards</b> 23:8	37:14 44:18
220:3	219:14	211:2,10	45:4,14
<b>buy</b> 59:8	<b>Callan</b> 146:13	<b>care</b> 88:25	47:24,25
138:14	<b>called</b> 170:13	99:13 118:11	49:23 54:2,2
202:19	<b>calling</b> 166:21	147:2 167:13	54:14 67:10
<b>buying</b> 88:2	<b>came</b> 18:4 28:6	200:15,16	76:16,25
<b>buys</b> 213:1	108:24	208:24 210:6	77:3,7 91:17
<b>buzzer</b> 209:14	157:10	210:24	91:19 94:22
<b>byproducts</b>	176:16	<b>careful</b> 14:6	129:1 133:1
145:18	184:10	205:2	133:2,24
<b>B.11</b> 78:5	199:15	<b>carefully</b>	135:17
<b>B.2</b> 63:25	<b>cameo</b> 115:20	200:8	147:18,23
118:19	<b>cancel</b> 37:21	<b>carried</b> 212:25	150:7 159:8
<b>B.3</b> 67:3	57:2	<b>carries</b> 35:7	166:23
121:23	<b>candidate</b> 21:3	74:22	167:16 168:2
<b>B.4</b> 67:13	35:5 56:20	<b>carry</b> 38:1	173:23 174:3
<b>B.5</b> 70:10	56:21 77:4	<b>cartridge</b>	184:18,20,21
<b>B.6</b> 73:25	129:22	25:14,15	185:25

191:18	193:8 197:8	15:17 18:24	100:2,9,14
200:11 201:8	218:24 219:2	20:9 22:9,19	100:22 101:2
209:25	219:10	22:23 23:2	101:9,13,21
219:21	222:17,18	23:10,21	102:5,16
<b>casting</b> 47:10	223:4,5	24:4,8 25:5	103:6,18
62:10	<b>Certificat...</b>	25:20 26:5	104:8,14
<b>categories</b>	12:7	26:10,20	105:9 106:5
13:11	<b>certified</b> 1:21	27:21 28:5	106:18,23
<b>caught</b> 55:13	5:25 14:22	29:13 30:14	107:15,18
<b>cause</b> 151:4	32:18 85:6	32:24 33:18	108:2,7
<b>causes</b> 133:17	121:1 137:14	33:22 34:2	109:9,21
<b>causing</b> 144:15	137:24	34:23 35:10	110:7,17
<b>center</b> 40:17	154:21	35:24 36:6	111:3,5,12
58:17 186:7	160:22 161:2	36:12 39:10	111:16,24
186:19	170:24,25	39:19,24	112:5,14,17
<b>certain</b> 41:1	172:14 197:3	43:9 46:3,10	113:3,15
58:24 104:5	197:15	52:20,23	114:2,15
104:6 116:9	198:12	53:8 55:6,12	115:18
157:20	203:25 222:5	55:24 57:5,9	116:25
218:18	222:25	57:17 58:19	118:10,18
<b>certainly</b>	223:13 228:3	59:2,21,24	119:7,20
12:19 17:9	228:5	59:25 60:3	120:3,8,12
22:6 36:2	<b>certify</b> 6:6	60:10,21	120:16
39:19 69:4	32:22 137:22	63:14,18,23	121:16,22
105:24	228:7	65:2,15 67:2	122:17,22
108:20	<b>certifying</b>	67:25 68:16	123:10,17,22
113:11 126:9	196:20 197:6	68:17,24	124:7,12,20
143:3 163:18	<b>Chagaris</b> 4:7	69:8 70:10	125:11 126:5
169:9 174:24	221:6,10	70:25 71:18	126:14,24
176:13 184:8	<b>chain</b> 58:7,25	73:18,24	127:5,12,20
187:14	104:24 180:2	74:23 75:18	128:13,18
191:11 199:7	<b>chair</b> 5:20	76:6,12	129:2,10,21
210:4 215:8	10:8 11:13	77:13,16,22	130:3,7,13
219:6	34:6 62:20	80:9,14 82:1	130:22 131:6
<b>certainty</b>	64:10 67:17	82:9 84:3,7	131:10,18,23
169:13	68:9 79:18	85:8 86:13	132:5,18
<b>certification</b>	84:5 101:3	86:23 88:18	133:11,15
12:5 77:25	118:13 146:6	88:24 90:11	134:6,17
139:21,23	151:25	91:4 92:17	135:1,11,23
140:7 153:24	156:25 160:9	93:9,13	136:10,14
154:3,13	171:5 197:1	94:12,15	137:1,10
156:4 171:2	<b>Chairman</b> 2:4	95:1,8 96:12	138:6 139:7
171:9,24	3:4 4:9 5:1	96:15 97:3	139:19 140:6
172:4 176:17	7:20,24 8:6	97:11,15,19	140:11
177:5,7	8:12 9:2	98:2,7,14,22	141:11,19
179:3,9	11:22,23	99:12,15,22	142:4,24

143:13 144:8	216:4,9	88:13 153:6	<b>cited</b> 99:3
144:13,18	217:1,6	162:3	<b>City</b> 71:11
145:10	219:6,7	<b>changing</b> 66:21	<b>clarification</b>
146:12,19	221:8 223:7	87:25 88:19	84:4 221:4
148:10,14	223:15	97:20	<b>clarified</b>
149:4,12,19	225:10,16,24	<b>characteri...</b>	178:21
150:14 151:3	226:13,17	145:11	216:21
151:9 152:5	<b>challenger</b>	<b>chat</b> 195:15	<b>clarify</b> 84:6
152:14,22	189:25	<b>check</b> 23:6	<b>clarifying</b>
153:11,15,17	<b>challengers</b>	44:7,20	217:5
154:10,17,25	185:16,17	84:21 116:17	<b>classes</b> 144:22
155:14,22	<b>challenges</b>	<b>checklists</b>	<b>clause</b> 96:6
156:15 157:8	193:24	144:25	119:8 219:16
157:18 158:7	<b>chance</b> 20:18	<b>checks</b> 113:4	<b>cleaned</b> 100:25
158:16,24	23:3 38:17	<b>Chicago</b> 71:11	<b>cleaners</b> 101:1
159:24	38:25 39:1	203:25 204:2	<b>cleaning</b>
160:15 161:3	54:25 123:12	<b>children</b> 210:7	100:20
161:8,18	143:10	<b>Chinese</b> 199:22	<b>clear</b> 18:3,3
162:5 163:6	220:25,25	<b>choice</b> 17:5,7	36:9 51:22
163:9,18,25	<b>chances</b> 19:3	17:8 60:15	71:22 107:9
164:7,17,21	<b>change</b> 17:2,4	111:23 112:3	142:23
165:2,10,13	19:23,23	<b>choices</b> 17:14	143:22
165:17 166:5	22:8 27:10	19:2 26:4	145:14
167:8,12,25	27:17 31:11	64:24 110:2	151:14 160:3
168:8,25	38:18,19,25	110:6 134:21	160:13 167:7
169:18 170:8	50:1 54:23	173:15	169:21 197:4
170:17 171:4	55:15,20	224:11	<b>clearance</b> 31:4
171:8,13,16	56:2 57:6,25	<b>choose</b> 11:4	33:14,15
172:11,17	58:21,22	27:16 34:24	105:21
173:1,18	60:9 64:22	36:23 68:15	<b>clearly</b> 42:2
174:11,20	88:3,7,13,15	98:3 199:19	132:16
175:11	92:5 95:5	199:21	195:15
176:10,22	133:23	215:25	<b>clerical</b> 79:24
177:17	134:24	<b>chooses</b> 199:22	<b>Clinic</b> 193:21
178:11,13,22	162:21 174:5	199:23,23	<b>clinical</b> 180:2
179:12,18	201:9 202:12	<b>chose</b> 7:23	193:18
180:9,13	224:10	<b>chosen</b> 36:17	<b>clock</b> 90:12
181:8 186:22	<b>changed</b> 37:3	<b>circuit</b> 74:19	<b>close</b> 4:8 24:9
186:25	106:14	<b>circulated</b>	24:10,22
187:16 188:1	219:13	207:1	25:1,10
189:3 190:20	<b>changes</b> 18:7,8	<b>circumstances</b>	85:16 169:24
193:9 194:9	19:16 20:16	212:1	194:19 195:1
195:8,20,24	20:19 21:13	<b>circumvention</b>	198:4 206:17
196:9 213:10	21:25 22:1	49:21 91:15	221:7 224:4
213:15	37:22 38:14	<b>citation</b> 185:4	225:18
215:20,23	58:24 64:21	<b>cite</b> 187:25	226:20

<b>closed</b> 24:12 24:14 41:23 45:21 93:17 119:18 157:16	209:15,25 <b>comes</b> 19:13 23:13 26:4 37:6 67:21 130:23 131:11 173:7 185:12	76:22 77:19 91:24 92:1 93:10,21 95:24 96:13 99:16 122:6 122:18,25 133:8 134:1 134:3 155:21 161:15 164:14 165:8 165:20 170:9 181:7,10 192:2 193:11 194:3,12 211:24 216:6 216:13,13 217:21 219:5 221:5 223:9 223:10,22 225:12,17 226:19	93:10 94:2 95:11 102:18 106:19 107:19 117:1 119:22 120:13 122:24 124:8 148:11 149:20 161:22 162:6 166:7 169:2 172:21 175:8 187:17 194:17 195:18 196:21,25 197:8 198:1 198:13 199:3 200:7 201:12 201:15,20 203:9 204:8 204:15,23 205:12,16,23 207:2,5,12 208:6,12,19 210:20 211:18,25 212:6,20 213:2,5,9 214:12 215:9 216:21 223:5 224:4 225:7
<b>closely</b> 196:21 <b>closer</b> 37:17 <b>close-out</b> 30:7 <b>closing</b> 221:10 <b>CMVP</b> 137:21 138:8,11 139:3,15,21 139:24 <b>CMVP-approved</b> 139:17 <b>code</b> 114:25 138:19 145:17 155:2 155:3,16 224:20 <b>codes</b> 112:21 112:25 113:4 113:6,14,21 114:19 115:5 115:6,11,22 116:4 158:18 <b>coffee</b> 11:9 <b>cohorts</b> 55:17 <b>coin</b> 10:16 <b>color</b> 11:8 31:13 <b>Colorado</b> 161:4 161:7 <b>colored</b> 218:1 <b>colors</b> 222:10 <b>combination</b> 60:20 70:23 185:22 <b>combined</b> 12:21 <b>come</b> 8:22 17:19 29:5 30:17 37:17 62:23 68:4 89:4 90:10 98:3 164:22 175:19	<b>comfortable</b> 56:24 <b>coming</b> 5:3 7:2 21:20 40:10 <b>commanded</b> 167:3 <b>commanding</b> 166:22 <b>commands</b> 121:6 <b>commencing</b> 1:15 <b>commend</b> 12:17 <b>comment</b> 3:3,5 3:7 4:3 5:7 29:14 74:8 92:3,20 95:13,20,23 99:9,13 117:19 118:6 129:7 132:22 132:24 142:11 163:16 164:12,18,23 187:19 194:24 215:25 216:1 216:4 219:8 219:9 223:11 223:18 226:6 <b>commenters</b> 220:3 <b>comments</b> 3:13 8:5 11:19 30:10 34:3 40:11 56:4 60:12,25 61:1 63:24 74:12 76:20	<b>commercial</b> 111:2,9 120:20 <b>commercially</b> 111:11 <b>Commission</b> 139:10 <b>commissioner</b> 95:19 96:9 137:6 158:1 <b>commissioners</b> 125:22 150:16 151:12 159:21 160:6 <b>committee</b> 1:9 2:3 5:20,22 6:3,5,14 9:12,20 10:18 11:24 30:3 35:14 59:3 60:24 61:3 63:24 65:21 69:5 74:10 76:17	75:3,10,16 83:8,15 89:17,20,24 90:5 106:21 108:9,22 109:2,8 121:8,11
			<b>COMMITTEEMAN</b> 27:2,9,20 59:5,16 66:14,23 69:16,20 70:4 72:14 72:18,21 75:3,10,16 83:8,15 89:17,20,24 90:5 106:21 108:9,22 109:2,8 121:8,11

146:22 147:4 147:16,21,25 148:12 162:8 162:20 163:4 163:7 <b>Committee's</b> 10:2 174:22 205:22 206:7 219:15 <b>communicate</b> 41:10 136:2 163:14 164:4 <b>communicates</b> 175:17 <b>communication</b> 76:7 136:19 136:24,25 <b>communicat...</b> 75:22 196:2 196:3,7 <b>communities</b> 186:20 <b>company</b> 212:15 212:22,23 213:1,4 <b>comparable</b> 82:18 <b>compare</b> 26:11 <b>compared</b> 188:22 <b>comparison</b> 26:13,19 <b>compartment</b> 153:8 <b>competitors</b> 66:20 <b>compiled</b> 138:20 <b>complete</b> 32:11 39:22 94:22 135:9 148:8 210:11 213:13 <b>completed</b> 32:14 178:19 202:2 221:5	<b>completely</b> 42:2 44:17 51:6 140:16 145:15 187:2 <b>completion</b> 6:2 <b>complexity</b> 81:8 <b>compliance</b> 12:4 68:23 99:14 134:15 141:14 <b>compliant</b> 136:22 <b>complicated</b> 81:7 <b>complied</b> 46:24 <b>comply</b> 34:17 47:3 122:16 126:21 127:11 148:7 <b>component</b> 74:5 136:19 157:2 203:14 <b>components</b> 42:14 43:25 73:25 154:20 154:21 156:21 163:13 164:2 205:20 223:23 <b>comprehensive</b> 40:7 <b>computer</b> 46:14 167:4 206:9 206:12,20 214:4 <b>computing</b> 120:22 <b>concealed</b> 29:19 <b>concealing</b> 51:6 140:16 <b>concede</b> 183:7 <b>conceivable</b> 63:12	<b>concept</b> 211:15 <b>concern</b> 28:6 28:22 29:20 68:1 87:2 181:13 <b>concerned</b> 145:21 181:21 201:16 214:8 217:12 <b>concerning</b> 163:12 194:7 200:17 212:1 214:9 218:6 <b>concerns</b> 12:13 <b>conclude</b> 205:15 <b>condition</b> 100:19 151:17,22 153:10 <b>conditions</b> 103:15 104:11 146:5 218:18,19 <b>conduct</b> 40:25 159:5 215:10 219:19 <b>conducted</b> 223:1 <b>conduit</b> 141:8 <b>confidence</b> 192:20 <b>confident</b> 55:5 <b>confidenti...</b> 31:7 32:5 <b>configurable</b> 127:18 <b>configuration</b> 161:17 170:16 180:6 <b>configurat...</b> 47:9,9 62:9 62:9 <b>configure</b> 18:18 25:17	27:7 <b>configured</b> 23:24 63:19 63:20 99:24 134:24 172:5 200:22 <b>confining</b> 161:15 <b>confirm</b> 219:4 <b>confirmed</b> 202:22 222:1 <b>confirms</b> 13:1 135:8 <b>conform</b> 74:1 <b>conforms</b> 14:21 <b>confusing</b> 187:8 <b>conjunction</b> 143:16 170:15 <b>connected</b> 51:5 136:4,6 140:15 141:7 141:9 <b>connection</b> 51:7 52:5 140:16,24 141:2,22 148:15 <b>connectors</b> 51:10 140:19 <b>consecutively</b> 185:6 <b>consider</b> 46:23 201:20 208:13,20 212:12,21 213:3 215:16 215:17 <b>consideration</b> 161:17 164:3 204:12 205:17,22 208:7 <b>considered</b> 31:17
--	---	--	--

<b>consistent</b> 221:21	114:17 132:20 158:8	<b>copier</b> 136:17	<b>correction</b> 149:14
<b>constitute</b> 133:24 160:13 178:5	<b>contest</b> 17:4 35:5 114:8 131:22 132:3	<b>copies</b> 93:22 102:19 160:22,23 188:8 205:13	<b>correctly</b> 57:18 142:9 167:23 182:1
<b>constitutes</b> 160:3	<b>contestant</b> 226:24	<b>copious</b> 102:18	<b>correlate</b> 80:11 82:4
<b>constituti...</b> 193:20,24	<b>contests</b> 19:7 19:10 20:25 21:1,6,9,10 134:21	<b>copy</b> 35:15 98:18 154:5 195:16	<b>correlation</b> 85:15
<b>construction</b> 71:12	<b>continually</b> 54:8	<b>cord</b> 51:11 140:20,23 141:1	<b>correspond</b> 78:14 191:1
<b>consult</b> 170:3	<b>continue</b> 75:5 90:23 217:2	<b>core</b> 41:13 76:19 138:15 221:23	<b>correspond...</b> 81:23 150:6
<b>Consulting</b> 43:13	<b>continued</b> 72:16	<b>corner</b> 11:12 28:14 220:9	<b>corresponding</b> 48:12,17,23 48:25 49:2 76:15 78:6 78:22 79:9 79:11,13 83:23 111:17 117:13,24 118:1,3 159:18 191:19
<b>consumable...</b> 142:8	<b>continuing</b> 15:13 73:24 129:12	<b>corollary</b> 222:3	<b>corresponds</b> 191:7
<b>contain</b> 78:18 112:18 113:17 114:19 115:21 116:4 130:14 136:16,18 153:1 154:18 158:18 163:13	<b>continuous</b> 45:12 54:19 67:6 159:3,5 181:23,25 184:16 185:23 186:1 190:17 191:16,23 199:14,17 219:18	<b>correct</b> 27:14 34:1 57:20 63:16 75:1 83:5,21,22 86:8 95:4,6 96:3,4 106:16 107:24,25 112:13 123:19 124:8 125:7,8 127:16,17 128:23 130:5 130:6,12 136:7,8,12 136:13 138:9 140:3,8 141:3 142:18 144:1 147:3 147:8 149:2 161:8 180:11 218:11	<b>corrupt</b> 225:2 225:6
<b>contained</b> 48:22 79:8 117:23	<b>continuously</b> 6:16 48:7 66:10,13,19	<b>corrected</b> 115:11 149:6	<b>corrupted</b> 197:23
<b>containing</b> 158:12	<b>contrary</b> 191:24	<b>correcting</b> 112:21 113:20 115:6	<b>corruptible</b> 197:23
<b>contains</b> 109:13 111:18 116:2 129:14	<b>contrast</b> 31:13		<b>Corzine</b> 8:4 193:23
<b>contaminating</b> 23:4	<b>control</b> 31:8 31:14,16,22 58:25 96:22 97:8 217:15		<b>cost</b> 156:2 162:13,24 202:9,24 205:5 215:1
<b>contemplation</b> 70:5	<b>convenient</b> 24:25 125:23		<b>COTS</b> 120:20
<b>content</b> 112:20 113:20	<b>conversation</b> 92:22		<b>could</b> 17:1 19:4 22:24 34:7 35:22 36:2 52:21 53:18 56:9 63:13 65:9 65:13,15,21
<b>contention</b> 128:19 143:25	<b>Coordinator</b> 43:13		
<b>contents</b> 66:5 109:14			



70:5 73:19	28:1,3,3	93:14 100:23	85:15
73:22 80:16	29:12	192:3	<b>crossed</b> 159:2
81:11 86:23	<b>county</b> 7:8	<b>covering</b> 9:9	<b>Crossing</b> 1:14
105:23	15:8 20:4	100:16,18	<b>cross-corr...</b>
107:15 111:5	59:7 63:15	<b>Co-Director</b>	82:14
111:25	87:9 95:18	193:20	<b>cross-refe...</b>
119:25	96:8 99:25	<b>Cramer</b> 12:8	62:2
120:23	125:3,22,24	<b>crank</b> 84:17	<b>crux</b> 14:16
141:25	137:5 146:24	<b>create</b> 186:11	<b>cryptographic</b>
147:11,15	150:16	<b>created</b> 70:12	137:11,13,20
152:20	151:11 153:4	114:7,16	137:23,25
160:20	153:21	115:3 158:8	138:7,11
161:18	156:23	<b>credentials</b>	139:6,12,13
162:17	157:25 159:4	22:12	139:15
171:17	159:20 160:6	<b>criteria</b> 3:21	<b>cumbersome</b>
172:18 174:4	204:17	6:8,10,13,20	56:24
179:7 187:20	219:17	9:13,14,22	<b>curiosity</b>
189:6 190:18	<b>couple</b> 19:7	40:23 41:1,2	26:22 130:23
195:18	37:23 52:21	41:4,12 42:1	<b>curious</b> 187:18
213:11	56:10 62:20	42:24 43:4	<b>current</b> 149:3
219:10	124:9 149:9	46:24 47:3,7	<b>currently</b>
<b>couldn't</b> 69:8	187:9	59:17 61:7	36:13 161:10
<b>counsel</b> 8:3	<b>course</b> 6:24	61:22 62:1,3	188:5 218:25
73:14 193:23	12:1 16:5,6	62:6 65:3	<b>curtains</b> 17:21
<b>count</b> 29:3	16:17 17:20	69:9 96:23	<b>custody</b> 57:25
53:15 58:17	18:10 22:1	117:8 139:10	58:7 104:24
135:9 205:7	33:12 34:21	151:15	<b>customer</b> 93:1
205:11	38:24 54:21	154:14 160:1	<b>customers</b> 15:1
<b>counted</b> 21:21	63:4 74:10	160:18	219:1
21:23 45:9	86:19 87:4	166:10	<b>customs</b> 126:21
45:15 65:18	88:1,8 95:4	168:19	<b>cut</b> 67:5 68:21
108:15 135:4	147:11 191:8	169:11	69:13 71:13
135:5	<b>court</b> 5:8	198:10	114:3 217:14
<b>counter</b> 28:16	102:20	221:13	<b>cutting</b> 141:10
28:21,23,25	111:25 165:6	222:19	159:10
29:15,16,17	193:14 199:7	<b>criterion</b>	219:23
29:18 191:2	200:5 203:1	47:17 48:10	<b>cyber</b> 42:7
<b>counters</b> 27:22	<b>cover</b> 50:11	49:6,16 50:2	<b>cycle</b> 30:6,7,7
27:23 30:9	58:2,4 60:9	50:12 51:4	67:22
<b>counties</b> 15:11	91:22 95:22	51:13,17	<b>cycles</b> 29:2
34:15 68:10	105:6 106:9	52:4 54:24	<b>C.R.R</b> 228:13
71:10 126:18	145:13,14	54:24	<b>C.S.R</b> 228:13
162:11	152:12 201:3	<b>critical</b>	<b>C.1</b> 154:3
<b>country</b> 87:10	201:4	198:19	<b>C.2</b> 101:21
126:19 204:3	<b>coverage</b> 72:24	<b>cross</b> 80:1	
<b>counts</b> 18:11	<b>covered</b> 13:25	84:21,21	

---

D

---

<b>damaged</b> 157:25	215:3 216:10	85:5	68:11 87:6
<b>danger</b> 33:5	<b>deadline</b> 93:25	<b>demonstrate</b>	<b>Depression</b>
<b>dangerously</b>	198:5 208:22	19:4 55:18	197:11
198:4	208:23	56:16 57:2	<b>deputized</b>
<b>Darer</b> 3:14	<b>deadlines</b>	64:16	220:18
40:12,16	210:19	<b>demonstrated</b>	<b>Deputy</b> 7:17
45:1 53:4	<b>deal</b> 24:25	19:24 57:4,8	165:11
59:24 60:1,5	27:23 68:7	74:15 206:19	<b>derived</b> 41:19
60:19 66:6	197:11 203:3	211:1,19,19	<b>describe</b> 40:19
77:11,14	209:1	<b>demonstrating</b>	43:7,15
82:10,16,23	<b>dealing</b> 202:1	98:20	105:10
83:2,6 89:9	<b>dealt</b> 68:10	<b>demonstration</b>	161:19
89:19,22	86:5 200:19	3:10,18	183:13
92:16 99:11	<b>decertific...</b>	15:20,24	<b>described</b>
106:17 118:9	218:13,22	36:10,11	13:16 38:16
122:20 129:9	<b>decertified</b>	40:2 53:11	197:21
133:10 134:5	196:12,16,18	56:3,11	<b>describing</b>
141:4 142:19	196:23	91:19 101:11	162:2
143:14 144:2	218:15	114:11	<b>design</b> 41:2
167:21 168:6	<b>decide</b> 9:20	125:23 126:2	42:10 85:19
169:4,6,15	175:13	126:11 128:4	90:24 104:15
216:3 223:12	<b>decided</b> 175:9	130:5	137:8
226:7,14	175:12 205:2	<b>demonstrat...</b>	<b>designated</b>
<b>Darer's</b> 143:24	215:10	105:2	175:24
<b>dark</b> 102:12	<b>decision</b> 10:10	<b>demonstrat...</b>	<b>designed</b> 43:2
<b>Daryl</b> 2:6 7:7	166:12	8:21	44:6 47:8
11:14	<b>deem</b> 181:4	<b>denoted</b> 52:15	49:7 62:8
<b>data</b> 112:7,9	<b>deems</b> 156:3	<b>deny</b> 193:8	64:1 85:20
114:25 115:1	<b>default</b> 35:6	<b>Department</b> 7:6	135:16
115:3,8	<b>defense</b> 30:16	43:14 46:15	<b>desirable</b>
141:17,22	<b>defer</b> 69:5	104:23	119:23
170:3 188:25	73:13	<b>departure</b>	<b>destroying</b>
<b>date</b> 25:3	<b>defined</b> 41:25	30:15	113:10
110:1 180:20	112:3 113:2	<b>depend</b> 165:25	<b>detail</b> 146:8
<b>Dated</b> 228:18	<b>definitely</b>	166:4	<b>detailed</b> 187:7
<b>dates</b> 18:1	40:9	<b>dependent</b>	<b>details</b> 195:19
<b>David</b> 3:8 8:24	<b>definition</b>	84:16	<b>detect</b> 51:14
30:25	18:1 156:16	<b>depending</b>	52:7 94:20
<b>day</b> 25:11	<b>degree</b> 169:13	86:20,21	116:13 142:5
27:11 35:17	186:17	93:4 220:25	146:9 148:17
44:24 50:7	<b>delay</b> 39:4	<b>depends</b> 25:25	<b>detecting</b>
98:1 104:21	<b>deliberately</b>	58:20 147:9	114:20
104:22	218:24	151:25	115:23 116:5
125:18	<b>delighted</b> 10:3	<b>deploy</b> 86:21	158:19
131:24	<b>deliver</b> 153:7	86:22 88:23	<b>detects</b> 143:4
178:23 187:1	<b>Democratic</b>	<b>deploying</b>	<b>determinat...</b>

225:9	212:19	55:9	<b>disclosed</b>
<b>determine</b> 6:9	223:12 224:8	<b>digital</b> 50:14	176:21
6:18 9:22	224:11	50:16,19,21	177:15
93:16 171:17	<b>Diebold</b> 211:14	50:24 51:3	222:16,22
220:4	<b>difference</b>	110:5 111:18	<b>disclosure</b>
<b>determined</b>	83:16	111:19 112:6	130:19
41:8	<b>different</b> 5:16	112:21	177:12 178:6
<b>determining</b>	9:13 16:13	113:21	<b>disconnect</b>
160:2 168:22	33:2 41:13	118:20,24	143:10
203:10 204:9	41:20 43:1,3	119:2,6,16	<b>disconnection</b>
204:24	43:5 44:18	119:24	52:12 148:24
212:10	45:6 54:21	120:14 122:2	<b>discrepancies</b>
<b>Detroit</b> 161:2	54:22 59:18	122:5,7,9,13	151:5
<b>develop</b> 40:25	61:7 67:4	137:17	<b>discrepancy</b>
141:25	69:17,21	<b>direct</b> 22:17	45:25 159:17
<b>developed</b> 14:4	73:3 83:25	31:5 165:15	<b>discretion</b>
27:1 43:1,19	92:10 98:4	196:3 201:13	155:5
44:15 69:22	99:18 104:1	<b>directed</b> 34:13	<b>discuss</b> 40:20
69:24 70:3	108:3,4,5	103:23	198:17
197:11	115:2,8	167:10	<b>discussed</b>
206:11	126:12	168:16	16:14 21:18
221:18	138:24	179:20	53:23 64:11
<b>developing</b>	139:14	180:14	94:8,16
70:8	144:21	<b>directing</b>	103:19 199:6
<b>development</b>	171:25	171:5	199:7
66:18,21	190:11	<b>direction</b> 39:7	<b>discussing</b>
149:2 210:15	199:19	<b>directly</b> 38:21	198:25 207:2
<b>device</b> 26:14	213:17,18	157:21	<b>discussion</b>
56:17 72:2	<b>differentiate</b>	<b>Director</b> 7:8	39:23 73:15
74:17 96:24	144:21	12:6 40:16	85:12 118:7
121:5 127:25	<b>difficult</b> 49:2	222:4	122:21 139:8
128:1,4	65:10 79:14	<b>disabilities</b>	153:16
138:3 139:2	79:19 80:18	30:20 31:2	158:23
145:6 153:8	80:20 82:17	33:25	209:22
179:9 218:1	82:21,24	<b>disabled</b> 36:5	<b>discussions</b>
<b>devices</b> 6:9	83:19 95:2	206:8 208:10	92:2 106:12
36:21 97:1	118:3 141:20	<b>disadvantaged</b>	<b>disparately</b>
163:12 164:2	144:19	186:20	186:20
222:21	145:25	<b>disagree</b>	<b>display</b> 29:24
<b>dialects</b> 34:18	189:25 207:3	119:13	98:23 100:4
<b>Dick</b> 5:19 7:25	207:14	<b>disallow</b> 94:24	100:9,15,23
<b>didn't</b> 20:10	<b>difficulties</b>	<b>disallows</b>	123:25
37:24 38:3	206:23	25:12	<b>displayed</b>
53:15 60:16	<b>difficulty</b>	<b>disappear</b> 39:5	98:25 114:8
66:11 185:10	65:12 83:9	<b>disappears</b>	142:10
191:16	<b>digest</b> 10:11	17:6	<b>disruption</b>

94:6	89:18 145:16	189:10 196:1	<b>DREs</b> 86:22
<b>disseminating</b>	147:5 176:4	196:3 199:5	87:1,6,11
150:15	<b>dollars</b> 205:1	202:25	197:16
151:11	212:18 213:4	209:12 211:3	204:25 205:1
159:20 160:5	215:12	216:19	205:3 213:24
<b>distinguish</b>	<b>done</b> 21:15	224:25 226:7	215:12
108:10 132:7	45:9 49:20	<b>door</b> 24:15	218:16,16
<b>district</b> 49:11	55:20 65:10	142:1 217:3	<b>DRE's</b> 52:8,12
85:24 88:2	65:14,16	<b>dot</b> 97:16	148:18,24
107:2	80:8,21 87:8	<b>doubt</b> 62:22	153:21
<b>Division</b> 1:3	87:9 91:14	<b>down</b> 7:23	202:24
7:9 125:16	97:2 118:16	26:16,18	<b>driver</b> 172:6
125:20	128:6 147:20	108:18	178:18 179:5
<b>doable</b> 81:7	154:11	110:10 154:2	179:10
<b>document</b> 111:7	158:19	205:4 207:12	<b>drop</b> 67:5
112:7 177:14	167:16 171:2	220:6	68:21 69:14
183:10,11	192:7 193:1	<b>dozens</b> 213:3	71:13 114:3
<b>documentation</b>	207:8 211:9	<b>Dr</b> 52:20 80:16	217:14
42:13 43:23	211:13	<b>draft</b> 139:10	<b>DSB</b> 172:8
123:3,18	214:24	155:18	192:16
124:14 150:9	<b>Donuts</b> 11:8	<b>draw</b> 20:2	<b>DSS</b> 172:8
150:13,19	<b>don't</b> 19:2	74:17 96:5	192:15
151:15,20	24:5 29:19	<b>drawn</b> 113:8	<b>due</b> 55:2
152:6 154:6	38:25 40:3	<b>draws</b> 74:19	<b>Dunkin</b> 11:8
156:6 158:3	53:17 55:24	116:19	<b>uplicated</b>
158:6 161:20	56:18,19	<b>DRE</b> 3:22 16:18	188:5
<b>documented</b>	58:20 68:7	43:25 50:13	<b>during</b> 6:24
75:20	69:1 73:16	50:20 51:14	10:6,7 11:10
<b>documenting</b>	73:19 75:12	51:18,20	27:5,11
42:23 220:7	75:24 80:20	64:3 74:18	49:25 54:1
<b>documents</b>	81:10 83:2	74:19 75:8	55:15 56:11
123:13,15	84:9 88:3	76:14,23	57:7 58:21
160:23 188:4	90:13 102:24	78:2,13	73:11 75:5
195:9	140:23	114:9 117:3	86:18 87:4
<b>doesn't</b> 26:23	144:16 147:6	118:19,23	88:1,8 92:5
29:22 33:8	147:23 150:3	120:17 122:7	98:1,17
34:6 37:12	151:19 154:1	123:1 129:24	105:1 106:15
55:3,8 65:4	156:5 159:13	133:20	127:22
68:13,25	163:1 164:5	134:20	151:17
90:7 128:21	164:21	136:11 142:4	162:22
166:11	166:12	143:20	163:15
173:15,21	173:23	149:22,23	164:19
174:7 176:2	175:11	150:9,19	194:12
189:18 190:7	177:22,23	155:2 179:9	197:11
<b>doing</b> 63:8	179:15	197:2 206:2	198:20,23
85:4,12	181:20	207:4	202:8,23

206:7 209:5 211:4 <b>dwelt</b> 65:8 <b>D-a-r-e-r</b> 40:16 <b>D.1</b> 139:7 <b>déjà</b> 5:4	200:21 201:3 222:11 <b>easy</b> 14:12 79:24 <b>Ed</b> 12:3 37:25 38:16,20 <b>Edge</b> 3:9,17 5:11 12:14 13:1,10 15:6 15:23 16:17 20:5 30:19 31:3 40:21 44:8,12 46:17 64:14 64:23 70:1 71:7,15,16 71:19,24 72:9,10 75:4 76:1,3 82:21 83:11,16,25 84:1 94:13 94:18 98:11 104:3 120:9 120:10 121:3 121:5 127:8 140:5 153:4 155:12 161:1 161:5,5,6,7 161:10,10,13 161:14,16 162:1,2,11 162:14 166:9 167:2 170:15 172:5,14 173:12 178:9 178:23 179:21 180:4 180:15,21 181:17,20 182:23 186:5 186:8 188:7 192:2 194:8 196:11,16 197:2,2 198:9 202:24 203:25 206:6	206:15,23 221:24 226:15 <b>Edge's</b> 204:22 <b>education</b> 125:25 <b>Edwin</b> 3:6,11 3:19 <b>Ed's</b> 38:11 <b>effect</b> 172:4 190:16 <b>effective</b> 214:19 215:1 215:1 <b>effectively</b> 13:6 93:17 97:20 <b>effectiveness</b> 91:25 <b>efficient</b> 205:5 214:20 <b>effort</b> 81:3 210:8 <b>efforts</b> 12:21 12:22 14:22 <b>Eggerts</b> 1:13 <b>eight</b> 44:16 188:8 189:16 189:17 190:9 <b>either</b> 51:6 58:16 140:15 161:10 164:3 169:3 180:25 182:3 195:11 <b>elaborate</b> 86:24 <b>elaborations</b> 122:18 <b>elected</b> 204:16 <b>election</b> 7:9 12:23 17:25 20:4,7,11 32:17 44:25 49:10,10 50:7 51:15 51:23 57:7	58:3 72:13 73:12 75:5 82:7 84:25 85:23,23 86:19 87:4 87:18 88:1 89:8 95:17 96:8 97:6,25 98:1 101:8 101:17,20 103:13 104:21 107:2 107:2,7 110:1 124:6 125:4,16,18 125:21 129:14 131:8 137:4 139:9 142:5 143:5 143:23 146:25 150:21 151:16,17,18 151:22 156:23,24 157:15 158:11 162:22,23 163:15 167:24 182:4 183:13,20 184:15,21 189:14 192:12 200:15 211:5 211:21 220:18 224:18 <b>elections</b> 1:3 13:9,12 15:4 24:21 72:19 85:17 88:8 125:16,20 149:9 197:21 <b>elective</b> 77:5 <b>electric</b> 151:6
<b>E</b>			
<b>each</b> 31:16 41:11 42:4 42:11,12 46:22 50:14 50:21 59:7 61:3 68:11 80:2 81:2 94:5 118:20 118:24 119:24 122:8 125:3 137:5 153:13 189:7 189:15 202:8 202:23 203:17 <b>Eagle</b> 1:22 <b>earlier</b> 19:24 20:25 22:16 24:12 45:21 63:15 93:14 94:9,18 98:20 99:16 118:7,14 124:5 149:17 157:10 160:11 162:10,21 196:25 199:6 208:8 226:8 <b>early</b> 15:11 <b>earphone</b> 31:21 <b>easier</b> 37:25 56:25 207:20 <b>easily</b> 13:20 41:6 64:1 192:21 199:13 200:1			

<b>electrical</b> 46:14 74:18	<b>elements</b> 43:3 44:13 182:9	35:17 37:6 37:16 38:2	<b>entire</b> 26:16 27:17 34:16
<b>electronic</b> 16:13,19 17:11 19:8 19:20 21:5 38:5,6 41:24 44:2 45:22 46:21 47:21 48:11,13,17 48:19,24 49:1 50:14 50:18,21,22 50:25,25 51:2 64:4 67:13 70:11 76:16,24 78:5,12,13 78:19,21 79:5,10,12 79:23 81:19 84:22 85:2 100:6 111:17 112:7 115:3 115:9 117:4 117:9,13,16 117:20,25 118:2,20,25 118:25 119:3 119:3,5,15 119:17,24 120:17,18 121:18 122:4 122:8,10,12 123:1 124:15 150:6 157:5 158:12 159:18 173:21 193:25 196:14,20 197:6,12 205:15	<b>eleven</b> 198:8 <b>eliminated</b> 13:20 <b>Ellen</b> 30:2 91:7 228:3 228:13 <b>else</b> 32:16 37:20 93:10 113:24 142:21 144:5 145:5 164:18 188:16 201:20 210:3 225:18 <b>elsewhere</b> 196:23 <b>embedded</b> 137:22 138:2 138:13,18 <b>emergency</b> 150:2 152:17 152:25 153:1 153:9 <b>emphasize</b> 217:12 218:3 224:13 <b>employ</b> 81:8 88:12 115:13 <b>employs</b> 159:4 219:18 <b>emptied</b> 93:3 <b>empty</b> 58:8 <b>emulates</b> 44:23 <b>enable</b> 150:20 <b>encourage</b> 210:5 211:25 <b>encrypting</b> 112:24 <b>encryption</b> 112:9 <b>end</b> 9:15 10:2 10:4,10 14:13 16:12 18:2,6 25:11	102:25 109:18 110:21 131:24 132:12 137:23 141:8 141:13 149:20 155:25 160:12 215:3 <b>ends</b> 116:9 194:18 <b>end-to-end</b> 137:25 139:5 <b>enforcing</b> 217:17 <b>engaged</b> 169:17 <b>engineer</b> 206:9 <b>Engineering</b> 46:15 <b>engineers</b> 141:25 <b>English</b> 16:4,4 22:16 129:15 130:10 <b>English-sp...</b> 131:12 <b>enhance</b> 149:3 <b>enough</b> 21:23 33:17 48:3 54:5,10 88:12 90:7 94:21 133:5 190:7 192:9 193:2 <b>ensure</b> 94:21 115:16 119:23 <b>ensures</b> 116:18 <b>ensuring</b> 12:23 <b>entailed</b> 91:20 91:22 <b>enter</b> 134:13 155:6	51:1 93:2,6 100:6 119:2 119:5 122:3 122:10,11 137:8 180:2 200:25 202:2 203:13,13 224:19 <b>entirely</b> 91:21 100:4 121:15 202:3 <b>entitled</b> 17:14 152:16 <b>equipment</b> 6:7 11:17 13:15 14:2,21,23 14:25 15:4 15:14 30:12 42:13 43:22 63:4,5 66:20 126:11 141:21 157:1 157:14 212:18 219:11 <b>equipped</b> 198:6 <b>equivalent</b> 66:3 75:21 <b>error</b> 51:18,25 52:2 112:20 113:20 114:25 115:6 115:11 117:1 135:2 142:12 142:14,20 143:2,18,18 144:1,3 145:19 146:1 146:10,23 210:1 <b>errors</b> 51:16 80:23 114:20
<b>electronic...</b> 25:7 45:15 154:5			

115:23 116:5 142:6 144:22 158:19 <b>error-corr...</b> 112:24 113:4 114:19 115:5 115:22 116:4 158:18 <b>escrow</b> 155:3 <b>especially</b> 54:17 55:15 85:16 175:13 <b>Esq</b> 2:4 4:4,5 4:6,7 <b>essentially</b> 19:17 23:25 35:7 71:12 <b>Essex</b> 20:4 <b>established</b> 13:13 42:9 43:4 159:7 219:20 <b>estimate</b> 72:5 73:20 173:10 <b>estimated</b> 89:13 <b>estimates</b> 156:8 <b>evaluate</b> 40:25 43:2 170:3 <b>evaluated</b> 168:24 <b>evaluates</b> 37:7 <b>evaluating</b> 42:23 <b>evaluation</b> 198:2 <b>event</b> 52:8 148:17 158:11 185:9 215:4,5 <b>eventually</b> 85:13 <b>every</b> 35:8 37:1 84:12 84:13 87:17	89:2 114:8 168:5 202:11 202:12 203:12 <b>everybody</b> 35:22 56:9 93:24 166:6 210:18 <b>everybody's</b> 30:16 <b>everything</b> 37:20 81:21 82:16,17 110:19 130:25 142:21 153:6 <b>everywhere</b> 116:7 <b>evidence</b> 160:3 160:13 204:13 214:23 <b>exact</b> 63:8 105:17 187:13 191:17 <b>exactly</b> 32:14 138:16 <b>examination</b> 1:8 2:3 3:21 40:22 43:22 44:1 197:22 <b>examine</b> 5:11 <b>examined</b> 212:8 <b>example</b> 131:11 168:5 182:20 217:25 218:6 <b>examples</b> 144:9 <b>Excel</b> 80:4 <b>excellent</b> 10:4 172:24 191:10 <b>except</b> 63:19 137:4 174:13 <b>exception</b> 47:6 47:17 48:10	49:6,16 50:2 50:12 51:4 51:13 52:4 52:14 62:15 64:8,9 70:16 78:23,25 79:1,2 80:17 83:24 84:9 86:4,6 99:4 110:21,22 117:6 118:22 119:12,12 121:25 132:23 133:9 133:16 134:2 140:12,18 141:1 170:1 170:6 <b>exceptions</b> 13:16,19,23 14:3,24 41:25 46:25 47:1 53:1 61:3 62:3 70:15 91:10 99:4 129:6 175:5 188:10 200:19 208:18 209:22 222:10 <b>excess</b> 105:21 <b>exchange</b> 102:6 <b>exclusively</b> 205:6 <b>excuse</b> 45:2 62:6 <b>Executive</b> 40:16 <b>exercise</b> 10:15 80:3 <b>exhaustive</b> 223:1 <b>exhausts</b> 181:6 <b>exhibit</b> 172:1 188:13,20	<b>exhibited</b> 72:3 <b>exhibits</b> 93:23 186:6 188:10 <b>exist</b> 184:25 197:7 210:18 214:12 <b>existed</b> 182:4 <b>existing</b> 156:22 <b>exists</b> 177:6 184:5 187:14 197:14 <b>expected</b> 42:3 49:14 86:7 87:7 <b>expedite</b> 39:25 <b>expeditiously</b> 10:20 <b>expenditure</b> 206:4 <b>expensive</b> 202:16,18 205:5 <b>experience</b> 12:23 30:18 34:20 86:11 88:22 144:17 209:4 211:23 <b>experiences</b> 211:22 <b>expert</b> 113:11 206:24 <b>expertise</b> 42:6 <b>experts</b> 170:4 <b>explain</b> 22:10 114:24 115:6 <b>explained</b> 42:15 49:4 <b>exported</b> 50:16 120:19 121:17 122:2 123:4,25 <b>exporting</b> 124:14 <b>exposed</b> 51:11 100:21
--	---	--	---

140:20, 22, 24 141:2, 9, 23 209:1 <b>extend</b> 210:20 <b>extensive</b> 42:6 92:24 <b>extensively</b> 218:8 <b>extent</b> 61:25 177:22 210:13 <b>external</b> 130:19 136:19, 23, 25 <b>externally</b> 41:9 136:2 <b>extra</b> 20:17, 20 21:8 24:24 60:17 106:13 112:6 <b>extrapolate</b> 192:10 <b>extreme</b> 161:24 <b>extremely</b> 7:1 145:8 <b>eyes</b> 224:4 <b>e-mail</b> 213:20 <b>e-n-d</b> 110:21 <b>e.g</b> 136:16	106:5 107:23 119:12 125:6 134:11 152:23 157:6 168:13 181:22 182:24 184:2 186:14 187:13 188:2 189:14 190:3 190:5, 12 191:6 194:10 196:22 197:13 199:9 200:20, 23 201:6, 9, 17 204:1 212:21 213:19 <b>factor</b> 150:7 199:15 <b>faculty</b> 6:23 42:6 <b>failed</b> 24:11 208:23 212:3 <b>failure</b> 156:8 198:15 209:2 <b>failures</b> 152:10 156:17 <b>fair</b> 55:10 92:14 93:24 128:22 189:12 <b>fairly</b> 5:14 6:13 65:23 66:2 169:4 188:3 <b>fairness</b> 9:24 <b>falling</b> 33:6 222:25 <b>familiar</b> 11:7 23:7 28:12 77:24 78:3 146:7 152:19 <b>fan-fold</b> 25:24 26:8, 14, 15	26:17, 24 <b>far</b> 145:8 160:25 208:14 <b>fashion</b> 90:19 <b>fast</b> 15:3 84:18 113:16 <b>faster</b> 22:5 85:7 <b>favorably</b> 74:9 <b>fax</b> 136:17 <b>feasible</b> 127:3 139:18 148:6 224:6 <b>feature</b> 136:20 149:3 210:25 <b>features</b> 49:21 91:15 104:6 136:25 <b>February</b> 10:22 <b>federal</b> 66:24 74:1 172:4 179:3, 8 <b>federally</b> 170:24 172:14 <b>feed</b> 58:11, 12 58:13 <b>feeds</b> 58:9 <b>feel</b> 11:11 47:4 55:1, 5 66:11 169:5 <b>feet</b> 25:23 <b>Feinberg</b> 198:21 202:7 202:20 <b>few</b> 7:10 9:18 14:1 48:2 53:25 66:5 133:4 145:8 165:13 181:7 188:10 216:10 226:1 <b>fewer</b> 87:11 <b>field</b> 113:9 152:3 192:21	<b>figure</b> 176:20 209:10 <b>file</b> 195:16 <b>files</b> 121:21 121:21 123:7 123:8 <b>filled</b> 21:6 <b>final</b> 20:18 38:15 47:21 78:11 133:18 133:21, 25 134:14 155:18 226:23 <b>finally</b> 55:2 222:13, 14 224:12 <b>find</b> 33:23 38:18 45:25 81:23 102:13 104:2 108:19 119:22 138:17 155:24 195:15 <b>finding</b> 47:23 48:18 49:13 49:24 50:9 50:20 51:9 51:25 52:11 119:14 <b>findings</b> 40:21 <b>fingers</b> 80:6 <b>finish</b> 90:7 <b>finished</b> 25:6 131:24 203:4 <b>finishing</b> 52:17 61:18 <b>firmware</b> 162:4 <b>first</b> 21:20 54:1, 2, 12, 21 54:22 62:15 72:7, 11 79:3 79:4, 16 89:10 100:12 109:4 110:18
<b>F</b>			
<b>face</b> 16:15 127:4 198:11 212:5 <b>facilitate</b> 58:16 <b>facility</b> 103:25 <b>facing</b> 175:25 <b>fact</b> 6:9 14:10 14:20 17:3 18:6 28:17 28:24 30:3 41:8 79:20 79:21 86:4 93:2 95:25			



116:3 165:18 166:2,18 167:8 173:5 202:6 206:10 216:13 218:12 221:11 <b>fit</b> 143:3 <b>five</b> 15:23 59:8,18 132:6 <b>five-minute</b> 207:8 <b>fix</b> 148:3 152:4 208:17 210:10,21 <b>fixable</b> 46:18 53:1 <b>fixed</b> 145:23 <b>fixes</b> 152:2 <b>Flavio</b> 4:4 7:13,16 164:13 165:5 165:11 168:9 <b>fleeing</b> 52:16 <b>Fleming</b> 2:5 7:4 59:5,16 66:14,23 69:16,20 70:4 72:14 72:18,21 83:8,15 89:17,20,24 90:5 121:8 121:11 146:21,22 147:4,16,21 147:25 158:24 163:6 163:7 172:18 <b>Florida</b> 71:23 161:11 204:22,24,25 205:8 <b>fly</b> 98:1 <b>flying</b> 222:10	<b>focused</b> 166:8 <b>folk</b> 213:8 <b>folks</b> 170:12 179:24 211:3 <b>follow</b> 92:13 155:23 168:1 <b>followed</b> 205:9 <b>following</b> 8:17 48:18 56:4 204:5 <b>follows</b> 91:11 95:14 117:9 117:20 118:23 148:23 <b>follow-up</b> 29:3 80:15 <b>font</b> 31:11 96:18,20 97:3,20,21 98:6,8,12 <b>fonts</b> 97:6 98:4 <b>foot</b> 26:2,2 89:10 <b>foot-long</b> 64:25 65:1 <b>foregoing</b> 228:7 <b>foreign</b> 127:10 <b>forest</b> 14:8 <b>form</b> 32:20 41:3 191:18 197:16,24 <b>formal</b> 77:4 160:17 <b>formally</b> 175:12 <b>format</b> 8:18 109:25 111:1 111:4,8 121:19 <b>forms</b> 34:17 138:14 <b>forth</b> 6:10 32:11 139:23	228:10 <b>fortunate</b> 6:21 <b>forward</b> 9:16 15:13 30:18 31:18 37:2 38:1 40:11 67:21 90:22 165:8 <b>found</b> 47:14 66:7 92:22 92:25 142:21 <b>four</b> 31:16 41:13,20 43:1,15,17 43:19 44:20 45:15,24 46:1 68:11 87:11 88:16 88:19 130:13 135:2 161:9 222:1 225:13 <b>Fourteen</b> 45:1 <b>fourth</b> 45:22 <b>frame</b> 19:13 20:2 168:5 169:22 176:2 <b>framework</b> 166:18 168:22 <b>frankly</b> 163:11 175:23 <b>fraud-free</b> 15:3 <b>free</b> 169:5 185:18 <b>freeholder</b> 16:22 38:12 <b>Freeholders</b> 204:17 <b>freeze</b> 145:2 145:22 209:8 <b>freezes</b> 52:3 142:14,17 144:14 210:2 <b>frequency</b> 163:13	<b>Friday</b> 73:21 93:21,24 169:25 181:1 194:19 195:1 226:3 <b>from</b> 6:23 14:7 17:23 18:4 29:19 30:15 31:25 32:8 33:24 34:6 38:20 39:5 41:19 45:19 54:9,21,22 61:1,22 62:4 64:8 67:12 72:24 74:18 74:19 85:4 85:10 90:25 95:25 97:8,8 98:4 99:18 101:10 104:2 105:21 106:1 106:2,3 108:3,5,24 110:6,10 114:22 115:2 115:24 116:15 117:19 118:16 122:6 126:10 127:6 128:11,14,24 130:19 132:22,24 133:8,16 137:4 139:14 141:6,16,17 142:9,11 145:18,20 148:11,22 149:24 150:4 158:2 160:23 161:25 162:4 169:1 170:11 170:12 171:22,25
--	---	--	---

180:2,3	128:11,21	<b>generated</b>	<b>glass</b> 97:10
183:17	129:3 133:8	45:12	<b>go</b> 6:7,16 8:23
185:13 186:7	133:14	<b>generations</b>	12:22 17:3,9
189:8 192:9	155:21 219:4	71:16	20:24 21:12
208:3,4,8,9	223:9	<b>generous</b> 61:13	28:10 30:6
210:6,6	<b>future</b> 174:22	<b>gentleman</b>	32:10 37:22
211:12	212:23	74:24	39:20 40:4
213:16		<b>getting</b> 86:25	48:7 54:19
215:24 217:7	<b>G</b>	<b>give</b> 15:19	54:19 57:24
226:5	<b>gave</b> 186:6	28:9 46:11	58:1,23
<b>front</b> 11:2	188:14	64:23 65:4	59:15,22
23:12 27:25	<b>general</b> 1:2	82:8 93:20	60:3 73:11
226:12	6:4 20:3,11	109:6 111:6	75:5 81:21
<b>front-page</b>	81:1 101:17	113:13 143:8	84:21,25
204:3	104:22 107:7	144:25 149:4	85:7 91:5
<b>full</b> 16:15	140:10	155:23	102:3 108:18
20:6 32:4	155:19	160:15	145:24 147:1
45:9 46:11	156:14	175:20 176:3	148:9 162:17
56:19 58:5	172:20	185:2 205:12	166:2,15
93:3 97:7	176:18	210:20	179:12 181:8
124:13	177:10 178:5	212:10	181:14 189:9
180:19	181:12	216:20	189:9,10
<b>fully</b> 21:7	192:11	<b>given</b> 6:8 32:9	190:6 195:3
67:9 94:6	198:11 215:8	56:13 84:10	195:21
159:7 170:5	<b>generale</b> 131:9	87:11 93:22	202:19
219:21	<b>generally</b> 10:9	125:13	213:20,23
<b>full-face</b> 66:4	22:5 66:20	133:22 144:6	216:24 217:3
186:9,16	88:10,12,15	168:19	221:9
188:22	205:4	169:12,22,23	<b>goal</b> 152:23
<b>function</b>	<b>General's</b>	176:17 177:5	<b>goals</b> 224:15
136:15	10:17 11:25	177:9,24	<b>goes</b> 6:15
138:21 154:7	40:24 42:19	180:6,24	14:14 18:22
157:2	85:11 92:24	192:6,25	32:4 39:16
<b>functions</b> 37:2	123:21 151:2	198:23 199:4	114:24
136:17	154:16	199:18	127:15
<b>fundamental</b>	155:20,24	209:17	128:20
181:18	175:21	217:24	166:10
<b>furnished</b>	177:21 180:7	220:16,17	185:14 190:2
60:24	180:25	<b>gives</b> 16:24	<b>going</b> 7:11,13
<b>further</b> 8:15	195:10,17	19:21 20:20	8:23 11:13
11:15 14:23	196:8 203:7	21:17 39:14	11:15,18
14:24 61:5	<b>generate</b> 50:13	64:20 118:17	15:19 19:16
76:22 91:24	50:21,23	174:15 211:1	20:15 30:16
92:19 94:24	118:19,24	<b>giving</b> 213:3	33:5 34:5,7
109:10	119:2 122:7	<b>glad</b> 7:20	37:16 38:14
119:21	122:9 137:17	166:2	38:19,21

39:3,4 40:8	<b>gotten</b> 62:4	<b>half</b> 71:22	166:25
55:17 56:12	<b>Government's</b>	105:20 147:6	<b>header</b> 131:8
56:15 61:5	137:12,19	147:7 184:11	<b>headlines</b>
61:20,22	<b>grades</b> 104:5	189:20	204:3
62:5 65:7	<b>grateful</b> 7:1	206:18	<b>headphones</b>
66:15,16	<b>gratification</b>	<b>hallmarks</b> 13:8	128:16
67:2 74:21	10:15	<b>hand</b> 28:13	<b>headset</b> 31:21
77:8 79:2,19	<b>great</b> 88:16	31:14,15,22	128:17
80:3,5,14	179:8 181:2	127:7	<b>hear</b> 32:1
83:13 84:25	184:22 200:5	<b>handed</b> 188:12	35:20,22
87:21,25	211:1	<b>hanging</b> 147:6	39:15 56:9
88:6,24 90:2	<b>Greek</b> 199:23	<b>happen</b> 63:13	56:12 169:1
91:5,9 93:20	<b>green</b> 12:6	183:1,2	169:8 185:17
99:8 102:20	18:16 58:13	<b>happened</b>	217:7 224:8
103:3 109:1	207:25 208:3	166:24 167:7	<b>heard</b> 65:18
109:16 114:5	224:1	218:14	74:8 85:9
114:6 115:4	<b>gremlins</b> 5:4	<b>happening</b>	102:4 128:3
116:20 118:5	<b>ground</b> 9:18	191:14	194:6 216:25
140:25	<b>grounds</b> 193:25	<b>happens</b> 54:3	<b>hearing</b> 1:4
141:18 145:4	<b>group</b> 12:22	80:24 142:16	4:8 5:10
145:7,22	40:1 175:20	147:17 173:4	6:11,22,24
156:17 165:3	204:11	175:16 218:3	10:7,10,13
165:25 166:4	<b>Guard</b> 1:13	<b>happy</b> 18:14	11:10,13
169:24	<b>guess</b> 28:5	189:1 213:6	15:7 32:6
175:13	67:25 113:23	<b>hard</b> 145:22	39:22 128:14
179:14 181:7	125:19 146:7	154:5 169:8	164:24 165:4
181:14 183:1	147:11,14	<b>hardware</b>	171:23
183:2,4,9	173:13	154:19,24	179:20
185:2 187:25	176:15,19	162:2 176:19	216:16
192:11,20,21	<b>guessing</b>	176:21,25	225:19
194:11	112:11	177:6,15	226:20
212:25	<b>guidance</b> 65:4	180:3 222:16	<b>hearings</b> 6:3
217:22 218:9	<b>guide</b> 128:25	222:21	14:7 34:14
221:6 223:9	<b>guidelines</b>	<b>hard-earned</b>	93:17 175:14
225:18	104:24	212:11	204:6
<b>gone</b> 72:19	203:16	215:14	<b>hears</b> 128:15
<b>good</b> 5:1 8:6	208:25	<b>harm</b> 224:24	<b>heat</b> 102:12
8:12 12:1	210:23	<b>hash</b> 111:22	<b>heavy</b> 33:7,11
26:19 30:20	214:14	112:2,11	<b>held</b> 10:1
30:22 40:13	<b>GUMPEL</b> 228:3	<b>hasn't</b> 179:3	<b>help</b> 31:17
43:11 72:24	228:13	<b>hate</b> 224:25	80:17 113:8
91:4 150:5	<b>Gusciora</b> 8:4	<b>haven't</b> 85:17	126:9 128:24
153:18	193:23	177:8	128:24
163:21 164:9	206:24	<b>head</b> 21:23	151:14
166:6 176:11		58:10 97:17	166:11
189:2 212:15		162:19	188:25
	<b>H</b>		

<b>helpful</b> 73:19 179:25	<b>Hey</b> 174:9	179:23	193:13 199:9
<b>helps</b> 128:25	<b>higher</b> 186:17	221:15	199:16
<b>here</b> 7:2,15,17 7:21 8:4,11 8:13,24,25 11:14 12:12 14:7,17 15:22 16:8 17:15,19 19:8,11 20:1 21:13,19 22:5 24:25 25:23 36:24 37:13 38:10 38:25 44:12 53:21 55:13 55:17 58:1 61:18 63:9 63:21 64:16 72:11 80:17 83:1 84:10 86:15,15 87:8,17 88:14 89:1 90:15 95:12 98:17 100:11 107:5 110:8 116:10,11 126:4 132:9 140:13 145:14 146:13 154:1 164:18,22 166:7 174:13 174:23 176:6 180:3,6,23 181:12 184:3 197:2 202:16 206:19 209:9 216:20 217:24 225:23	<b>highlighted</b> 209:18	<b>hug</b> 175:20	<b>identifying</b> 20:7 67:18
<b>highly</b> 183:6	<b>high-quality</b> 15:14	<b>human</b> 34:25 160:12	<b>identity</b> 67:14 68:3 78:16 117:18
<b>Hispanic</b> 130:24 131:11,13	<b>historically</b> 190:22,25	<b>human-read...</b> 109:14,25 112:20 113:20 191:18	<b>III</b> 3:6,11,19 85:18 90:24 104:14
<b>history</b> 15:2	<b>hit</b> 22:18 147:17	<b>humidity</b> 102:13	<b>III.A.I</b> 49:7 49:17
<b>hold</b> 193:11	<b>holding</b> 109:18 212:22	<b>hundred</b> 22:24	<b>III.A.1</b> 91:8
<b>holding</b> 109:18 212:22	<b>hole</b> 184:3	<b>hundreds</b> 195:2 195:2	<b>III.A.1(a)</b> 91:9
<b>hole</b> 184:3	<b>holes</b> 70:22	<b>hurt</b> 39:20	<b>III.A.2</b> 94:3
<b>home</b> 139:1	<b>home</b> 139:1	<b>I</b>	<b>III.A.3</b> 95:12 95:14
<b>honestly</b> 74:15	<b>honesty</b> 212:16	<b>ID</b> 182:3	<b>III.A.4</b> 96:16
<b>honors</b> 165:5	<b>hope</b> 132:23	<b>idea</b> 65:17,21 69:21 73:9 76:8 80:10 82:3 149:5 209:20	<b>III.B</b> 98:23
<b>host</b> 126:15	<b>host</b> 126:15	<b>identifica...</b> 69:3,13 107:1,23 217:18	<b>III.B.2</b> 100:3
<b>hot</b> 87:18	<b>hour</b> 45:1,5 61:12,14 90:22 206:18	<b>identified</b> 48:16 67:16 117:12 135:17 171:21	<b>III.B.3</b> 100:15
<b>hours</b> 42:21 45:3 75:14 82:11 226:14 226:15	<b>hours</b> 42:21 45:3 75:14 82:11 226:14 226:15	<b>identifier</b> 20:11 81:18 81:20	<b>III.D.I</b> 50:2
<b>house</b> 42:10	<b>housekeeping</b> 166:7	<b>identifiers</b> 48:15 117:11 117:14	<b>II.B.1</b> 47:7
<b>housekeeping</b> 166:7	<b>hovering</b> 182:22,23	<b>identifies</b> 101:19 107:6 107:8,8,10 112:8 182:2	<b>II.B.11</b> 48:10
<b>Howard</b> 12:8	<b>however</b> 14:2 80:7 97:7 103:22 122:16 126:18 138:17 145:8	<b>identify</b> 67:23 107:11 159:16	<b>II.B.11.a</b> 47:18
<b>helpful</b> 73:19 179:25			<b>Illinois</b> 93:8
<b>helps</b> 128:25			<b>image</b> 48:11,14 48:19,24 49:1 50:22 50:25 76:24 78:5,14,19 78:21 79:5 79:11,12 81:19 114:7 117:9,17,20 117:25 118:2 118:25 119:4 120:18 121:18 123:4 123:25 124:15 158:2
<b>here</b> 7:2,15,17 7:21 8:4,11 8:13,24,25 11:14 12:12 14:7,17 15:22 16:8 17:15,19 19:8,11 20:1 21:13,19 22:5 24:25 25:23 36:24 37:13 38:10 38:25 44:12 53:21 55:13 55:17 58:1 61:18 63:9 63:21 64:16 72:11 80:17 83:1 84:10 86:15,15 87:8,17 88:14 89:1 90:15 95:12 98:17 100:11 107:5 110:8 116:10,11 126:4 132:9 140:13 145:14 146:13 154:1 164:18,22 166:7 174:13 174:23 176:6 180:3,6,23 181:12 184:3 197:2 202:16 206:19 209:9 216:20 217:24 225:23			<b>images</b> 121:3,7 <b>imagine</b> 88:2 <b>imagining</b> 33:3
<b>hereby</b> 228:7			
<b>hereinbefore</b> 228:10			

<b>immediately</b> 62:24 99:17 149:23	156:7,9 159:9 219:22	99:1 128:2	7:5 10:11,12
<b>impact</b> 186:19	<b>included</b> 42:5 110:12	<b>index</b> 48:21 79:7 117:22	20:7 35:5,8 36:13 37:5,5
<b>impaired</b> 128:20 207:10 208:2 218:2 223:24	111:19,23 166:22	<b>indicate</b> 46:17 67:14 102:21 106:6 115:1 115:7 123:6 135:16	40:17 42:7 65:24 67:18 74:6 78:18 83:5 94:1 96:18,20
<b>impairment</b> 31:12	<b>includes</b> 43:24 101:16 112:23 127:24	<b>indicated</b> 73:2 76:14 107:17 109:17 110:18,19 141:6 161:4	109:22,24 110:5,11 112:18,22 113:12,18,21 120:21 123:9
<b>implementa...</b> 139:16	150:10,20 178:18	<b>indicates</b> 221:16	123:11 130:8 146:2 149:16 150:16 151:2 151:11
<b>implemented</b> 135:10	<b>including</b> 5:22 48:15 50:3,7	<b>indication</b> 51:22 142:22 142:23 143:22	159:20 160:6 162:16 177:24 185:19
<b>important</b> 10:23 146:14 176:9 182:8 197:25 201:21	76:25 104:18 104:21 114:9 117:11 152:8 156:8 185:19 185:20 211:8	<b>indications</b> 124:2	199:18 216:20 224:23 226:2
<b>importantly</b> 11:5	<b>incomplete</b> 160:4,14 163:19	<b>indicator</b> 94:4	<b>informing</b> 196:6
<b>impose</b> 102:20	<b>incompletely</b> 150:24	<b>individual</b> 35:1,2 41:11 48:16 77:3 117:12 128:5 128:15 159:11 171:22 189:8 213:19 219:24 220:22	<b>inherently</b> 69:12 213:25
<b>impossible</b> 83:20 95:3	<b>incorporate</b> 181:15 194:2 194:11	<b>individuals</b> 5:23 220:22	<b>initial</b> 158:10 162:4
<b>improve</b> 34:19 143:12	<b>incorrectly</b> 150:25	<b>industry</b> 110:25 111:4 111:8	<b>initialize</b> 97:6,25
<b>improved</b> 12:23 143:3 184:23	<b>incredibly</b> 207:3	<b>ineffective</b> 205:3	<b>initially</b> 17:6 23:11 56:23
<b>improvements</b> 14:23	<b>incremental</b> 26:17 162:3	<b>inefficient</b> 205:3	<b>inoperable</b> 152:16
<b>inaccurate</b> 160:4	<b>indeed</b> 13:3 14:18 21:10 79:22 96:10 115:14,16 138:22 147:12 158:14 201:16 204:12 209:8	<b>inescapable</b> 88:6	<b>input</b> 6:25 9:16 10:4,5 62:3 93:18 213:16
<b>inadvertently</b> 186:13	<b>independent</b> 47:12 62:12 155:4 161:19	<b>influence</b> 42:19	<b>inquiry</b> 154:1 188:7
<b>inch</b> 105:20	<b>independently</b>	<b>information</b>	<b>insecure</b> 196:11
<b>inches</b> 33:16			
<b>incidentally</b> 62:16			
<b>Incidentally</b> 217:1			
<b>include</b> 72:2 74:4 76:24 107:1 109:13 114:8 124:1 127:14 135:13 152:6			

<b>insert</b> 22:13 29:6	<b>interchang...</b> 70:7	60:2,13 63:24 68:8	<b>it's</b> 11:8 17:22 21:2
<b>inside</b> 73:8 79:25 118:16 127:2 205:25	<b>interesting</b> 16:10 145:11	69:2,11 74:13 78:24	21:14 26:12 26:15,17,18 26:19 29:6
<b>insight</b> 60:11	<b>interject</b> 102:17	84:11 90:23 101:18	30:20 33:12 33:19 38:7
<b>inspect</b> 65:9 65:23 99:2	<b>intermixing</b> 70:6,6	104:24 114:3 117:7 122:19	40:8 53:2 54:9 63:13
<b>inspection</b> 43:22,24 53:18	<b>internal</b> 41:23 52:9,13 148:18,25	122:25 132:25 143:9 146:17 147:2	66:2,12 71:24 74:14 76:10 79:24
<b>installed</b> 72:7	<b>International</b> 116:23	149:5 163:17 166:8 176:9	79:25 81:7 81:11 82:23
<b>instance</b> 71:23 87:10 131:4	<b>interpreted</b> 116:16	181:18 183:5 189:4,22	83:3,11 87:9 90:13 98:5
<b>instances</b> 160:11	<b>interrupt</b> 172:18	192:3 196:4 197:1 198:18	107:9 122:20 127:12 128:6
<b>instant</b> 10:15	<b>interrupted</b> 95:3	198:20 199:1 199:8 200:6	151:14 157:12 163:2
<b>instead</b> 19:15 19:17 116:21	<b>intervene</b> 52:19	200:17 201:22	170:4 173:24 175:22 182:9
<b>instruction</b> 32:9 35:7 127:9	<b>introduce</b> 43:6 211:12	214:18 218:12	183:11,24,25 187:8 190:25
<b>instructions</b> 17:13 31:22 56:13,15,18 124:23 125:2 125:3,14 126:16,25 127:3,10,14 131:7 207:18 207:21	<b>introducing</b> 7:12 80:23 165:6	221:11 224:13	192:5 202:18 214:21 219:17 220:5 220:11 225:1 225:8
<b>instructs</b> 100:11	<b>introduction</b> 5:15 46:11	<b>issued</b> 40:23 68:4 125:3 175:1 194:7 206:24	<b>IV</b> 106:24 <b>IV.A.2</b> 110:24 <b>IV.B.1</b> 48:13 <b>IV.B.2</b> 50:12 <b>IV.B.3.b</b> 50:15
<b>intact</b> 24:21	<b>introductory</b> 30:11	<b>issues</b> 14:5 55:20 65:3 198:16 209:1 214:9 217:19	<b>I'll</b> 19:7 38:9 45:9 126:1 165:15 166:1 168:17 183:13 221:17
<b>integer</b> 26:16	<b>inventory</b> 126:10	218:6 <b>ITA</b> 161:19 178:15,16 180:2,19	<b>I'm</b> 5:19 7:11 7:13,22 8:1 8:2,3,4,11 11:13 12:3,5 19:16,20 20:15 21:19
<b>integrated</b> 156:21	<b>investigating</b> 152:7	<b>items</b> 42:11 44:14 113:25 138:25 226:1	
<b>integrity</b> 145:17 196:2 224:24 225:5	<b>invite</b> 213:9 224:3	<b>itself</b> 31:4 32:4 70:24 116:18 143:5 167:19 169:2 182:16 201:2 202:3 221:16	
<b>intended</b> 174:10	<b>invoice</b> 39:14		
<b>intending</b> 175:8	<b>involve</b> 81:5		
<b>intends</b> 174:2	<b>involved</b> 13:15 42:17		
<b>intent</b> 14:11	<b>isn't</b> 216:18		
	<b>issue</b> 17:2 27:24 54:3		

23:6 30:16	<b>jam</b> 51:20	38:20,22	47:3 53:21
30:25 33:2,3	143:7,9,19	39:1	57:9,12
36:5,6 37:16	144:10,12,15	<b>John</b> 2:5 7:4	68:12,20,24
38:19,20,21	145:4,20	59:4	69:22,23
55:17 65:11	146:23	<b>joined</b> 12:6	71:16 72:3
65:12 67:2	<b>jams</b> 142:7	<b>judge</b> 198:21	80:21 81:6
67:11 68:5	145:7	199:1,8	88:3 91:25
75:14 76:1	<b>January</b> 198:5	202:7,20	102:6,25
77:8,13 79:2	208:23	204:18	108:18
80:14 87:15	<b>Jersey</b> 1:1,7	<b>judges</b> 58:2	109:17
88:14,24	1:13,14,23	220:18	115:20 126:4
90:1 95:2	6:1 8:11	<b>judicial</b> 107:4	138:21
109:16,17	10:18 11:25	213:21	142:17,21
110:9,9	12:1,15,17	<b>July</b> 1:15	143:7,25
112:11	12:24 14:15	<b>jump</b> 5:18	145:21
113:11,15	14:19,25	<b>jumped</b> 159:1	146:25
114:5 116:10	15:2,11,14	<b>jumping</b> 113:15	152:22 155:8
118:5 124:8	16:2 18:10	<b>jurisdiction</b>	157:6 162:13
132:23	20:23 33:25	18:4,18 20:6	166:5,6
140:25	68:3 71:4	20:13 37:7	167:18
145:21 146:6	137:15 149:8	126:9,12	169:20,25
146:7 149:15	161:7 162:17	127:8,19	170:4,6,13
152:19	166:10	182:17	171:20
156:17	174:14	189:15	172:18
158:25 161:9	181:25	206:16	174:21
166:19 167:6	182:21 183:9	<b>jurisdicti...</b>	179:12 181:7
167:23	183:13,19	24:19 96:10	181:14
171:21	184:6,16	<b>jurisdictions</b>	182:16 183:9
173:13 174:4	185:1,11	13:22 24:24	187:25
176:20	186:3 189:20	73:2,10	188:14 193:2
178:25 181:6	190:12,19	88:11,22	194:4,15
181:15	191:22,25	105:13	195:18
194:16	192:19 194:1	141:15	196:10
223:12	196:19 197:3	144:25	202:19
<b>I've</b> 6:15	197:5 199:4	196:13	209:19 210:3
21:21 38:24	200:10	<b>jurisdicti...</b>	212:19
64:10 126:12	203:12 214:1	151:25	213:11
179:6 214:4	215:13	<b>just</b> 7:23 9:9	216:10
215:19	219:13	9:18,19	217:12
	220:15 221:1	13:14 16:8	218:10 219:3
<b>J</b>	222:24	21:22 25:17	219:4,7
<b>Jain</b> 3:15	224:20 228:7	25:24 27:3,4	220:2,5,11
40:18 43:7	<b>Jersey's</b> 222:5	27:21 29:3	222:10
43:11,12	222:6	29:13 33:22	224:12
45:2 46:4	<b>job</b> 61:18	36:9,10 37:4	
167:14	<b>Joe</b> 12:7 38:20	37:8,15 38:1	<b>K</b>

<b>keep</b> 9:25 24:24 105:6 185:3 190:1 198:1 200:24 203:9 216:11 223:8 225:8 <b>keeps</b> 184:17 <b>kept</b> 190:5,6 216:17 217:15,19 <b>key</b> 41:15 112:9 200:12 207:25 208:1 208:1,3,4,4 <b>keyboard</b> 36:21 37:1 <b>keypad</b> 36:19 36:19 <b>kind</b> 63:9 73:20 113:4 <b>knew</b> 210:23 <b>knob</b> 24:11,12 24:14,22,23 <b>knocked</b> 101:3 <b>know</b> 9:5 18:15 28:11 29:1 29:19 40:8 53:17 56:14 56:21 63:9 68:7 75:10 75:12 79:19 81:10 89:12 93:20 144:14 144:17 151:19 162:18,24 170:14 171:9 177:22 179:7 189:11 191:9 191:12 192:18 203:1 204:23 209:12 211:3 217:19 <b>knowledge</b> 99:24 171:12	171:14 <b>knows</b> 32:5 55:4,4 90:8 <b>Komuves</b> 4:4 7:16,16 164:16 165:9 165:11,24 166:16 167:11,18 168:13 169:9 169:19 170:10,22 171:1,7,15 171:19 172:24 173:3 173:24 174:17,21 176:7,13 177:3 178:8 178:14,25 179:17 180:12 181:2 181:9 186:24 187:5,24 188:9 189:12 191:10 198:18 199:6 <hr/> <b>L</b> <hr/> <b>lab</b> 42:9 43:13 180:4 <b>Laboratories</b> 161:25 <b>laboratory</b> 162:1 <b>laborious</b> 61:6 <b>labs</b> 172:14 <b>lack</b> 21:8 <b>language</b> 124:25 127:10 129:15,19,24 130:2,15,17 130:20 131:8 199:19,20,25 223:22	<b>languages</b> 129:17 <b>lapse</b> 218:25 <b>laptop</b> 116:8 <b>large</b> 19:18 31:8,11 49:3 79:14 80:18 118:4 123:13 123:15 <b>largest</b> 25:22 <b>last</b> 21:22 26:20 38:17 109:5 132:12 143:16 155:19 159:25 165:4 171:2,23 202:7,21 <b>last-minute</b> 174:5 <b>late</b> 178:22 <b>lateness</b> 187:1 <b>later</b> 152:4 <b>law</b> 7:6 8:2,2 18:10 21:15 22:8 57:22 59:10 60:20 104:23 182:21 183:19 184:1 189:20 191:3 191:25 193:19,19 199:4 220:15 224:18 <b>Lawrenceville</b> 1:14 <b>laws</b> 63:7 126:21,22 182:17 183:3 183:6 184:6 184:25 197:10 200:15,15 <b>lawsuit</b> 8:3 193:23	206:25 <b>lead</b> 8:3 9:11 193:22 204:24 205:8 <b>League</b> 8:10 <b>learn</b> 210:10 <b>least</b> 40:9 49:11 85:24 86:18 88:7 96:19,20 103:12 104:9 105:20 107:5 145:19 159:25 <b>leave</b> 19:7 24:20 60:1 66:7 147:6 226:8 <b>leaves</b> 52:17 <b>Lecturer</b> 43:12 <b>led</b> 205:14 <b>left</b> 7:4,7,13 11:6 17:15 19:9 20:25 21:9 29:21 63:3 <b>leg</b> 33:15,15 <b>Legislature's</b> 198:4 <b>length</b> 25:25 26:11 192:3 <b>lengthy</b> 5:14 6:14 <b>less</b> 69:12 187:3,8 <b>lesser</b> 186:12 <b>letter</b> 39:14 39:15,15,17 140:4 <b>letters</b> 36:24 <b>let's</b> 19:1 28:6 59:22 68:13 80:2 86:2 87:13 87:15,19 109:10 117:3
---	--	---	---



130:23	28:9 33:2	175:13	<b>loud</b> 199:12
190:25	34:5 36:16	213:20	<b>Louisiana</b>
<b>level</b> 61:2	37:17 39:9	216:10	160:24
146:3,8	61:9,13,14	222:24	161:11
<b>lever</b> 28:14	71:22 78:3	224:16 226:9	<b>low</b> 86:11
29:25 58:13	86:11 90:19	<b>longer</b> 59:10	142:7,20
<b>lift</b> 201:3	94:17 141:8	64:18,19	143:7 144:3
<b>liked</b> 17:8	169:8 173:24	65:8 89:12	144:4
<b>likewise</b>	220:8	<b>look</b> 5:24 9:16	<b>lower</b> 58:9
118:13	<b>lives</b> 206:13	9:21 14:9	108:19
<b>limited</b> 50:4	<b>local</b> 16:11	15:13 22:7	<b>low-paper</b> 94:4
51:19 74:4	18:19 34:17	28:12 30:4	94:10,18
104:18	34:18 126:21	40:11 53:20	<b>low-vision</b>
143:19 152:8	152:19	63:11 74:11	31:12
159:9 209:24	156:22	90:21 93:4	<b>LPS</b> 112:10
219:23	182:17 183:3	98:10 105:17	117:14
<b>line</b> 21:20	183:6 185:13	110:15	124:22 125:1
116:19	185:23	162:18 165:8	150:8,14,18
<b>lines</b> 80:5	216:14	168:6 175:9	151:10 158:3
141:17	218:19	177:14	159:7,16,19
201:19	<b>location</b> 127:2	182:15,17	160:5 219:20
<b>line-by-line</b>	<b>locations</b>	184:14 186:5	<b>LPT</b> 76:2,11
14:10	125:24	188:19	<b>Luddite</b> 214:3
<b>link</b> 26:3	<b>lock</b> 24:15	192:18	<b>Luddites</b> 214:5
106:4	105:19	196:21 200:7	<b>luncheon</b> 91:2
<b>linkage</b> 26:1	<b>locking</b> 50:4	211:25	93:16
48:24 79:10	95:15 104:19	224:18	<b>Lyman</b> 7:22,23
117:25	105:10	226:23	
<b>linked</b> 48:15	<b>locks</b> 25:12	<b>looked</b> 6:23	<b>M</b>
117:10	70:22 218:8	63:10 170:20	<b>machine</b> 1:8
<b>list</b> 185:19	<b>log</b> 52:9,13	<b>looking</b> 28:1	2:3 3:9,17
220:6,8	148:18,25	33:2 62:25	5:13,16,24
<b>listed</b> 77:3	158:2,4	63:21 67:6	6:12,19,24
198:8 209:20	<b>logging</b> 25:2	71:2 110:7,9	7:9 13:2
<b>listen</b> 40:4	<b>logic</b> 156:22	110:10 148:5	15:20 16:1,1
56:18,19	157:13	149:16,17	18:1,14,21
<b>listings</b> 178:6	<b>loitering</b> 63:7	168:11 176:9	22:10 23:4
<b>lists</b> 176:25	<b>long</b> 6:15	178:16,17	23:11,12,14
<b>literally</b>	12:22 15:2	183:5	23:25 24:9
184:20	26:18 44:12	<b>lose</b> 14:8	24:18,20
<b>literature</b>	44:13 65:4	83:13 90:2	25:8,16
187:15	65:22 66:8	<b>lost</b> 81:22	26:23 27:4,5
<b>Litigation</b>	66:10 75:11	207:17	27:16,19,24
193:20	80:5,11,21	<b>lot</b> 10:11	28:2,3,14
<b>little</b> 9:8	81:23 82:3	37:25 82:17	29:1,23 30:4
21:17 23:23	86:14 168:2	88:2 97:16	31:3,4 32:18

32:19,21	158:2,9,11	186:10,17	7:7 27:2,9
33:3,6,13,23	158:15	189:7,17,24	27:20 75:3
34:9 35:23	162:14 166:9	190:4,10,15	75:10,16
40:21 41:9	167:2,15,19	191:20 192:7	106:21 108:8
42:4,15	168:2 172:5	192:10,18	108:9,22
45:13 46:18	176:19 177:1	193:4 194:1	109:2,8
46:24 49:12	177:16	196:15,20,22	148:12
51:6,11 52:6	179:21 184:4	197:1,7,12	153:17 162:8
52:7,16	184:13 186:8	197:13 198:6	162:20 163:4
53:12 55:19	186:9,15	198:12	201:21,23
57:4,8,24	187:3,4	202:19	<b>maintain</b> 146:4
59:6,7 60:16	188:6 189:9	204:21	185:19
61:25 66:15	189:10,10,22	205:10,18	<b>maintained</b>
66:24 67:20	190:14 191:2	211:2,11,18	67:15 130:15
68:14,15	191:12,14	214:10	<b>maintenance</b>
71:7 74:11	197:14	215:18 218:7	23:18
75:4,19	199:11	218:21	<b>major</b> 156:19
82:21 85:25	203:17,18,20	222:21,23	<b>majority</b> 225:1
86:16 87:3	207:6,11,24	<b>machine's</b>	<b>make</b> 8:19 9:6
87:16 88:8	209:3,4,6	42:24 138:19	10:9 11:17
88:20 89:7	210:2,2,10	<b>made</b> 15:4	11:19 14:23
90:6 97:21	211:4,6,12	16:24 17:1,6	16:7,22,25
97:24 98:3	211:12,14	17:14 31:16	17:2 18:2,3
99:14 107:3	222:6,9	56:4 100:19	18:7,8 19:16
107:10,11,24	<b>machinery</b>	125:15 127:1	19:23 20:15
108:3,6,19	215:15	171:9 173:16	20:18 21:25
108:24 110:1	<b>machines</b> 9:20	177:24	22:1,8 29:1
114:5,17,23	10:20,21	181:10 194:3	37:22 38:14
116:1 120:9	14:11 15:23	194:12,25	38:17,25
120:11	29:25 41:1	203:24 204:3	81:16 86:13
125:10 127:2	41:14 42:12	204:11,16	102:25
127:4 130:18	44:12 58:12	207:20	115:18 117:5
133:20	63:16 66:4	208:15 210:7	164:14,18
134:23 136:3	69:17 77:24	211:24	165:20,25
136:6 138:4	88:3,12 92:9	212:17,24	166:2 169:21
138:17,20	125:23 126:2	219:9 221:12	173:18
140:15,20	126:7 139:3	222:14	176:22
144:12,14,22	140:7 155:17	223:10	179:19 181:7
145:11 147:1	160:21	225:13	197:4 216:7
148:6,15,16	162:12	<b>magazine</b>	217:11 219:8
150:1,21,22	166:23 167:1	145:13	220:9 224:22
151:16,21	167:5 168:24	<b>magnification</b>	226:3,11
152:15,25	169:14	96:24 97:1	<b>maker</b> 54:20
153:14	170:16,20	<b>magnifying</b>	<b>makes</b> 17:7
155:13	173:16	97:10	18:14
157:17,24	185:21	<b>Mahoney</b> 2:6	<b>making</b> 198:2

205:17 225:8	34:21 73:9	<b>matters</b> 13:24	<b>meaning</b> 81:8
<b>malfunction</b>	86:25 87:2	41:8 197:25	<b>means</b> 112:10
51:18,23	88:13 89:5	216:14	169:14
52:1 142:13	126:12,20	<b>may</b> 20:2 40:7	199:12,25
143:18,22	212:16	46:10 47:8	203:15,19
144:2,4	214:18,23,24	47:15 53:4,4	<b>meant</b> 36:5
145:20	215:16,16	62:8,17 67:3	37:25
150:11	216:13	74:20 75:15	<b>measure</b> 117:15
<b>malfunctioned</b>	<b>Marie</b> 30:2	79:18 81:8	<b>mechanical</b>
150:23	91:7 228:3	84:5 85:13	51:18,25
<b>malfunctions</b>	228:13	86:4 92:1	135:2 141:25
51:16 142:7	<b>mark</b> 76:13	96:1 99:5	142:12
146:10 152:8	<b>marked</b> 132:15	105:23 124:1	143:17
152:15 204:4	<b>market</b> 34:22	128:19	145:19
<b>mal-ware</b> 23:3	<b>markings</b>	139:12 142:8	146:10
<b>management</b> 7:5	114:21	142:22 145:3	197:12
124:6 203:8	115:14,24	146:10	<b>mechanism</b> 22:5
<b>Manager</b> 12:8	<b>marks</b> 113:9	154:20	201:2 202:3
<b>mandatory</b>	115:15	158:19 159:9	223:24
119:11,19	116:15	171:25	<b>mechanisms</b>
122:16	<b>match</b> 41:20	190:20 209:3	50:5 95:16
<b>manifestat...</b>	46:22 79:22	209:19,25	104:19
137:18	83:20 85:2	210:3,3	105:11
<b>manipulate</b>	108:14	219:22	<b>medical</b> 138:3
200:21 201:5	149:22 157:6	220:22	139:2
201:10 225:7	173:15,21	221:14,15	<b>meet</b> 6:10,20
<b>manipulation</b>	174:7	<b>maybe</b> 5:17	97:2 104:7
200:13	<b>matched</b> 45:24	37:24 39:21	198:9 212:4
<b>manner</b> 14:12	<b>Matching</b> 48:25	52:24 80:16	214:13
47:13 62:13	79:12 118:1	86:18 127:13	<b>meeting</b> 5:7,8
63:1 67:9	<b>material</b> 101:5	151:14	59:23 102:23
78:15 134:24	125:1 126:16	186:25	<b>meets</b> 9:14,22
145:23	178:1	189:16	62:1 104:13
<b>manual</b> 58:13	<b>materials</b>	<b>Ma'am</b> 8:8	166:9
85:12 129:22	102:19 103:4	<b>McIntyre</b> 12:7	<b>member</b> 225:22
<b>manually</b> 29:8	125:5,12	<b>mean</b> 37:24	<b>members</b> 2:3
91:23 92:14	126:15,18,19	46:9,25 48:8	6:22 11:23
106:14	127:9 187:22	49:14 52:14	12:10 15:22
<b>manuals</b> 102:11	194:24,25	54:18 68:13	53:24 60:24
125:9,10	195:3	68:25 71:6	61:3 92:23
152:12	<b>Mathematical</b>	80:20 86:25	102:17
<b>manufacturer</b>	43:14	108:11 156:8	195:17
103:23,24	<b>Matheson</b> 8:9,9	156:16	196:24 197:7
<b>many</b> 13:17	<b>matrix</b> 97:16	157:11 177:4	207:5,12
15:11 29:1	<b>matter</b> 14:17	197:15 201:1	224:3
32:10 34:15	37:8 200:6,8	223:13	<b>memories</b>

160:20	149:5,13,14	<b>misinterpr...</b>	137:20
<b>memory</b> 155:8	155:22 164:9	115:15	139:15
<b>mention</b> 24:11	164:11 175:1	<b>misinterpr...</b>	<b>moment</b> 219:3
77:23 84:1	175:4 182:24	114:22	<b>money</b> 202:15
221:12	189:9,9,10	115:25	205:24
<b>mentioned</b> 46:9	190:11,15,16	<b>misreporting</b>	212:11
46:16 63:8	200:23 201:6	152:9	215:15
122:21 124:5	201:17	<b>misreprese...</b>	<b>monitored</b>
153:5 155:17	208:17	204:7 212:17	189:14
160:8 169:20	210:15	<b>misreprese...</b>	<b>monitoring</b>
196:25 198:3	211:23 222:3	204:16	205:2
212:13	224:23 225:6	212:24	<b>months</b> 42:22
<b>mentions</b> 70:15	<b>mike</b> 35:25	<b>missing</b> 83:10	175:2
<b>menu</b> 121:6	<b>millions</b>	83:18 186:13	<b>moot</b> 84:9
128:24	138:24	<b>misspoke</b> 82:23	<b>morning</b> 5:2
<b>Mercer</b> 204:17	204:25	<b>mistake</b> 55:3	12:2 23:14
<b>mere</b> 197:13	212:18 213:3	<b>misunderstood</b>	27:5 30:21
<b>message</b> 21:13	215:12	52:25 178:20	30:22 40:13
52:2 100:10	<b>Millstein</b> 3:8	179:6	43:11 98:20
112:9 142:14	8:24,25 9:1	<b>mis-recomm...</b>	99:10 105:2
142:20 143:2	11:19 30:17	192:16	118:8 207:15
144:1,3,6	30:22,25	<b>Mitch</b> 40:1,10	209:6
209:11	33:11,20	43:10 46:9	<b>morning's</b>
<b>messages</b>	34:1 39:10	46:16 77:8	101:10
127:18 146:1	74:8	92:15 106:16	<b>mouth</b> 92:8
<b>met</b> 76:18	<b>mind</b> 7:12,14	134:3 140:25	<b>move</b> 56:15
96:23 193:3	34:7 35:11	142:16 143:7	67:3 90:18
222:6	56:1 153:20	167:12,25	103:3 109:11
<b>method</b> 67:5,7	174:6 198:1	223:11	117:3
67:8 114:3	203:10	<b>Mitchell</b> 3:14	<b>moved</b> 66:9
164:4	217:20 223:8	40:15	<b>moves</b> 55:8
<b>methodologies</b>	225:8	<b>mitigated</b>	<b>moving</b> 9:25
221:20	<b>minimal</b> 49:20	13:20	54:9 66:12
<b>methods</b> 67:4	91:14	<b>mm</b> 96:19,21,21	106:23
192:22	<b>minimum</b> 75:13	<b>mock</b> 45:4	153:23
<b>Mexico</b> 205:9,9	75:14	197:20	<b>much</b> 30:23
<b>middle</b> 57:7	<b>minor</b> 162:3	<b>mode</b> 157:14,15	32:23,25
116:19	222:10	167:22,24	56:25 60:22
<b>might</b> 10:21	<b>minute</b> 30:5	<b>model</b> 42:12	61:14 75:15
17:19 33:4	45:10 82:8	180:22	77:18 81:16
35:1,3 39:25	<b>minutes</b> 32:8	<b>modern</b> 58:11	82:24 85:3,7
53:16 65:23	39:8 168:5	<b>modifications</b>	92:11 141:12
72:2 73:6,18	206:17	66:16	146:20
80:11 82:4	226:15,16	<b>modify</b> 134:19	175:22
86:16 89:6	<b>miscellaneous</b>	141:21	187:14
95:24 101:14	52:15 209:21	<b>Module</b> 137:13	193:10

213:13	177:24 189:8	14:19,25	44:14
215:21	191:13	15:2,11,14	<b>nineteen</b> 44:13
226:21	212:25	16:2 18:10	<b>NJIT</b> 3:13 6:23
<b>multiple</b> 44:7	<b>necessary</b> 89:6	20:23 33:25	8:22 9:6
<b>multiple</b> 54:17	117:16 156:3	65:3 68:3	12:20,25
54:18 64:17	163:20	71:3 137:15	13:17 14:1
66:8,8 89:18	210:10	149:8 161:7	16:10 34:6
89:19,20	<b>need</b> 17:19	162:17	34:13 40:24
98:6 162:11	32:10 36:10	166:10	43:14 46:15
187:8,10	53:5 59:19	174:14 175:1	59:11 62:4
191:14	69:1 81:1,20	181:25	64:8 70:15
<b>multiple-s...</b>	97:9 128:10	182:21 183:9	76:17 77:9
48:6	128:21 142:2	183:13,19	78:23 79:19
<b>must</b> 14:6	156:5 165:22	184:6,16	80:15 86:16
134:12 185:5	166:12 170:3	185:1,11	88:25 91:11
	181:20	186:3 189:20	92:1,8,12
<b>N</b>	193:13 199:5	190:12,19	95:13,20,25
<b>name</b> 5:19 12:3	202:11 225:4	191:22,25	96:12 99:4,8
30:24 37:8	<b>needed</b> 130:8	192:19 194:1	106:6 117:19
38:11 39:18	<b>needs</b> 126:23	196:19 197:3	118:5,22
40:15 46:13	150:23 198:1	197:5 199:4	122:1,6,17
67:17 182:3	<b>nefarious</b>	200:10 202:3	129:6,7
183:20,22	211:11	203:12 205:9	132:22,25
185:15	224:14	205:9 210:14	133:8,17
193:17	<b>neglected</b>	214:1 215:13	142:11
199:12	218:3	219:13	148:22 150:5
206:13	<b>negotiated</b>	220:15 221:1	157:7 165:14
<b>namely</b> 50:22	162:16 163:2	222:5,6,24	166:20
168:1	203:6	224:20 228:6	167:10
<b>names</b> 129:22	<b>negotiating</b>	228:7	168:16,17
131:22 132:3	155:11	<b>Newark</b> 193:19	169:1,10
184:9	<b>negotiations</b>	<b>next</b> 8:23 11:9	175:5 182:1
<b>nano</b> 166:14	203:23	17:12 18:23	192:24 194:7
<b>narrow</b> 169:4	<b>network</b> 136:17	21:12 23:17	197:19 198:8
<b>National</b> 1:13	163:15	26:4 27:13	198:16
<b>nature</b> 13:18	<b>networks</b> 42:8	29:7,12	200:18
101:20	<b>Nevada</b> 72:8	39:17 57:5	201:14
177:25	93:1 161:11	90:9 114:2	208:18
<b>naught</b> 220:12	<b>never</b> 223:21	124:21	209:13
<b>navigate</b>	223:21	143:14	210:17 211:3
207:20,21	<b>new</b> 1:1,7,13	148:19 149:8	213:7 216:1
<b>near</b> 36:3	1:14,23 5:24	156:15,19	221:15,21
<b>necessarily</b>	6:1,13 8:11	157:19 172:2	223:1,13
68:25 69:24	10:17 11:25	175:2 222:13	226:5
138:8 139:14	12:1,15,17	<b>nice</b> 18:14	<b>NJIT's</b> 40:16
144:16	12:24 14:15	<b>nine</b> 32:8	60:25 62:15

77:20 119:13 134:1 <b>nod</b> 11:10 <b>nods</b> 11:13 <b>Noel</b> 206:13 <b>nondisclosure</b> 155:6 <b>Nonetheless</b> 208:19 <b>non-accepted</b> 132:7 <b>non-disclo...</b> 155:11 <b>non-propri...</b> 121:19 <b>non-scroll</b> 187:4 <b>normal</b> 104:10 <b>normally</b> 24:20 106:14 <b>notable</b> 207:24 <b>notably</b> 209:12 <b>Notary</b> 228:6 <b>notation</b> 135:21,22 <b>note</b> 16:21 21:16 62:14 70:14 73:2 78:20 95:12 102:17 121:24 129:5 135:12 140:12 148:22 150:4 170:1 195:4 198:14 223:16 226:18 <b>noted</b> 13:16 14:24 15:9 16:23 70:15 78:23,25 91:10 101:3 106:6 129:6 170:9 199:1 204:18	208:18 210:16 227:1 <b>notes</b> 76:17 228:9 <b>nothing</b> 37:3 118:15 133:10,13 153:5 182:1 182:6 <b>notice</b> 17:25 20:17 21:20 52:7 107:4 127:6 133:19 134:10,12 148:17 <b>noticed</b> 53:23 74:20 209:13 <b>notified</b> 194:18 <b>notifies</b> 143:5 <b>notify</b> 51:14 142:5 209:2 209:15 <b>November</b> 20:5 107:21 172:19,22 <b>now</b> 15:19 21:4 21:13 29:16 37:12 38:24 43:6 44:3,7 44:22 45:17 47:6 57:9 66:14 82:20 86:2 87:15 92:7 102:24 103:18 105:1 116:2 128:5 136:5 153:5 170:11 184:25 200:22 205:6 205:10 211:13 213:13 214:18 <b>number</b> 18:21	20:22 25:2 28:25 34:19 59:20 68:4 80:10 81:18 85:14 86:10 87:6 88:16 89:5 107:21 107:23 108:1 108:4,16,19 109:6 110:1 110:2 139:5 183:16 186:12 188:4 190:24,25 191:7 196:12 218:5 <b>numbered</b> 183:17 185:6 <b>numbers</b> 82:18 <b>Numeral</b> 96:16 <hr/> <b>O</b> <hr/> <b>object</b> 61:17 <b>objection</b> 195:5 <b>objections</b> 194:3,5,22 <b>objective</b> 65:21 <b>objectively</b> 42:23 <b>obscure</b> 26:3 100:17 <b>observation</b> 127:13 <b>observe</b> 8:4,11 <b>observer</b> 47:14 62:17 99:5 <b>obvious</b> 187:2 <b>obviously</b> 64:18 146:14 148:5 176:8 188:24 216:15 <b>occur</b> 146:11 <b>occurs</b> 51:19	135:3 143:18 <b>odd</b> 87:22 <b>offer</b> 76:18 <b>office</b> 1:2 10:17 11:25 16:22 17:2 19:22 29:20 34:14 40:24 42:19 77:6 85:11 116:22 123:21 151:2 154:16 155:24 156:13 175:21 177:21 180:7 180:25 181:4 195:11,17,22 196:8 202:8 202:23 203:7 203:7 <b>official</b> 14:16 20:3 101:17 103:14 107:7 133:25 135:18 146:25 157:15,17 167:24 <b>officially</b> 225:18 226:20 <b>officials</b> 51:15,24 95:18 96:8 101:8 137:5 142:5 143:6 143:23 150:21 156:23 204:16 217:16,17 224:22 225:2 225:3,6 <b>off-the-shelf</b> 120:21
---	--	--	--

<b>oftentimes</b> 220:18	168:5 180:19 220:21	155:15 160:18	<b>opaque</b> 145:15
<b>oh</b> 36:6 58:11 76:1 89:22	<b>one</b> 5:22 15:24 16:16 17:15	162:23 163:10,17	<b>open</b> 20:25 21:2 24:23
<b>Ohio</b> 196:18 218:23 219:1	18:11 20:12 20:25 21:2	168:18 169:6 174:19,21	25:1 157:17 <b>opening</b> 3:3
<b>okay</b> 7:25 8:14 9:2 30:1	21:22 26:1 26:16,20	175:16,17 176:14	8:20 11:17 27:6 106:1
37:11 38:21 46:12 53:22	27:21 29:13 33:1,15 38:9	177:18 182:9 186:4 189:5	<b>open-ended</b> 226:8
55:22 61:15 61:19 75:16	38:15 41:16 44:11,14	189:9,9,10 196:17	<b>Open/Polls</b> 24:12,14,22
77:16 82:1 84:3 89:24	45:18 49:11 53:3,9 54:1	199:15 200:9 200:12 202:3	<b>operate</b> 152:24 207:3,6
90:11 94:15 95:8 97:11	54:6,13,16 54:20,22	202:9,23 203:21	209:7 <b>operates</b> 157:3
103:6 122:22 123:22	55:13 58:11 62:22 65:2	206:10 207:24 209:6	183:19 <b>operating</b>
124:20 127:20 132:5	66:2,10,15 66:16,22	210:25 213:11,15,19	35:23 197:10 <b>operation</b>
135:1 154:11 163:4 164:7	67:25 70:14 72:7 74:21	218:16 219:8 220:11	45:13 62:7 71:1 143:21
165:2,16 168:9 171:15	74:25 77:24 79:4 81:5,6	223:21 226:6 <b>ones</b> 63:20	147:13 <b>operational</b>
171:19 174:17	82:5 84:1 85:24 87:16	204:12 <b>one-hour</b> 90:14	125:9 <b>operations</b>
195:23 196:5 216:5 223:7	89:25 91:10 91:20,21	<b>one-time</b> 43:21 <b>only</b> 6:11 7:10	42:16 43:23 51:21 52:9
<b>old</b> 29:25 191:3	92:23 98:5 98:18 99:3	27:12 32:5 38:7 48:1	148:20 152:9 <b>opinion</b> 13:24
<b>omitted</b> 220:3 <b>omitting</b> 220:2	100:4 105:1 105:3,4,22	55:18 60:15 67:21 87:23	13:24 33:19 53:1 61:25
<b>once</b> 12:16 15:25 17:10	105:24 108:19 109:5	95:17 96:7 99:16 126:6	76:18 88:19 199:2 214:17
17:11 20:15 25:2,10	110:10 112:5 116:3,8	133:3 134:11 136:15,22,23	148:20 152:9 <b>opportunities</b>
31:23 32:3 32:13 34:16	119:21 125:12	137:23,24 138:4 153:9	21:7 133:23 <b>opportunity</b>
36:17 39:15 40:15 47:24	127:15 129:5 134:24 135:5	154:19 166:8 174:19 182:3	10:2 18:11 20:6 38:6
56:16,24 59:9 92:20	142:19 143:25 144:8	189:24 190:4 190:14,22	40:14 47:20 64:20,24
122:14 128:8 128:19 133:1	145:10,17 146:15	200:10 208:20	65:5 67:23 78:10 80:22
142:2 144:7 152:18 163:2	149:25 153:20	220:17 <b>On/Off</b> 24:17	100:5 132:19 <b>opposed</b> 26:24
			78:25 145:12 187:10

<b>opt</b> 162:11	122:24 124:1	153:23	81:2,17
<b>optical</b> 94:20	136:3,10,16	219:17	85:21 86:6
205:6,10	139:4 144:17	221:16	88:13,14,15
214:21	146:2,14,23	222:19	90:1,7 91:12
<b>option</b> 34:24	148:10 150:4	<b>pages</b> 16:18	91:23 92:4,5
36:20 92:11	160:18,25	64:17 188:20	93:19 94:5
203:11,15	162:6 163:19	195:2	94:21 95:5
<b>options</b> 215:16	168:18 170:2	<b>pair</b> 81:24,24	95:21 96:18
<b>orange</b> 11:6	174:15,19	<b>paper</b> 5:12	97:12 98:18
<b>order</b> 39:24	177:13	13:5 14:13	98:19,23,24
48:20 79:6	183:23	14:17 17:16	99:6 100:3,6
117:21 148:6	184:11	17:22,25	100:7,18
177:19	199:15	19:12 20:12	101:6,6,15
184:17,19,19	217:17 218:5	26:9,15	101:19,22
185:20,24	218:10,16	27:10 28:9	102:10 103:8
191:19	226:19	38:6,7,11	103:10,11,14
210:11 220:7	<b>others</b> 41:7	41:7,17,21	103:19,25
<b>ordinary</b>	175:17	41:21,22	104:2,5,6,15
100:20,25	186:21	44:1,9 45:18	106:8,25,25
<b>oriented</b> 14:2	<b>ought</b> 217:19	46:20,21	108:3 109:12
<b>original</b> 17:8	<b>outside</b> 8:23	47:12,15,18	109:15,19
228:9	70:23 80:1	47:20,23,25	110:9,12,23
<b>other</b> 5:23	145:19	48:5,12,14	111:20
10:16 12:10	174:12	48:16,23,25	112:19 113:8
15:1,11	<b>overall</b> 46:23	49:2,8,13,18	113:19 114:7
18:13 23:19	<b>overview</b> 40:18	49:25,25	114:16,18,21
24:4 27:10	<b>overvotes</b>	50:10,23	114:22 115:2
27:22 29:18	77:10	51:19,20	115:8,13,21
33:12,15		53:13 54:3,8	115:24,25
37:1 39:22	<b>P</b>	54:15 55:10	116:3,15
41:10 42:13	<b>pack</b> 25:24	55:15 57:11	117:10,12,17
44:9 46:22	26:8	57:20,25	117:24 118:1
49:19 53:10	<b>packages</b>	58:21 60:9	118:3 119:1
59:3 66:16	138:12	60:14,16	121:7 122:8
69:25 73:6	<b>pad</b> 185:7	62:12 64:2,5	124:16
77:19 80:2,3	189:8	64:10 65:19	129:15,23
81:15 85:6	<b>page</b> 3:2 4:2	66:9 67:7,8	130:8,14
90:6 91:13	38:4,10 62:5	67:13 68:6	131:19 132:6
91:21 92:20	62:6 64:17	70:11,17,19	132:12,20,25
95:10 105:10	66:3,8 73:25	71:6 72:12	133:2,7,18
108:23	85:18 89:18	73:4,7,11	134:18 135:3
112:10,19	90:21,21	74:6 76:13	135:4,16
113:18,24	100:12,12	76:15 78:6,8	137:1,3,8
114:21	101:6 121:23	78:10,14,17	139:11 142:7
115:14,24	129:12	78:22 79:9	142:8,9,20
116:15 117:1	135:15	79:11,13,23	143:7,19,20



144:3,4,10	152:5 154:2	<b>pass</b> 171:5	203:20
144:11,14	154:17 156:1	<b>passed</b> 222:9	<b>percent</b> 47:2
145:4,6,7,13	157:23	223:2	87:19,22
145:20 146:3	158:16 159:1	<b>past</b> 134:13	220:19,19,23
146:23	159:4,15	137:21	220:24,24,25
147:24	<b>paragraphs</b>	153:19	<b>perfect</b> 73:20
149:22 150:7	157:20	198:22	102:15
151:6 152:10	<b>parallel</b> 76:2	214:24	<b>perfectly</b>
157:5 158:7	76:3,5	<b>patent</b> 5:22	45:24 208:21
158:17	<b>part</b> 10:3	<b>path</b> 137:2,8	<b>perform</b> 13:3
159:10,11,12	28:15 40:5	<b>patience</b>	23:19 42:10
159:18 160:3	60:12 63:25	225:25	130:9 157:1
162:25	91:22 102:22	<b>pause</b> 21:21	<b>performance</b>
173:15,21	115:20	64:12 98:13	41:4 42:24
174:2,6,10	123:12,15	110:16 211:2	43:3
182:5,6	133:16	<b>pauses</b> 64:15	<b>performed</b> 13:2
183:16	138:18	64:16	13:6,10
195:10	156:18	<b>pdf</b> 111:4,7	156:23,24
197:14 198:7	159:25	123:7 195:12	166:20
199:10,14,24	164:19 165:4	<b>pdf-417</b> 113:2	205:14
200:2,21	171:25 185:3	115:12	221:19
201:1 202:4	187:22 191:4	<b>peer</b> 99:18	<b>performing</b>
202:12 203:4	199:7 211:4	<b>peered</b> 63:10	126:25 205:1
205:7,11,20	217:23	<b>peering</b> 62:24	<b>performs</b>
205:25	220:23	<b>pencils</b> 153:2	138:21
213:21	<b>partially</b>	<b>pending</b> 179:11	<b>perhaps</b> 11:10
214:16,21	183:24	<b>Penny</b> 8:1	33:4 40:4
215:4 217:13	<b>participate</b>	93:20 164:13	52:24 72:1
219:23,24,25	42:19	193:12,13,17	78:3 80:16
221:25	<b>particular</b>	195:8	85:6 86:16
224:10	16:1 42:12	<b>people</b> 7:10	101:13
<b>papers</b> 153:2	68:14 69:25	30:20 68:1	110:22
<b>paper-change</b>	92:4 93:11	103:1 138:25	144:17
106:15	106:7 107:2	146:15 149:2	152:20
<b>paper-trail</b>	114:4 131:14	164:11 184:9	<b>period</b> 54:4
6:9,12	143:8 166:9	184:20	64:19 65:22
<b>paragraph</b>	179:20	185:20	103:12
98:24 114:5	192:25	186:12	104:10
114:6,6,15	198:14	206:10	194:22 195:5
114:18	<b>particulars</b>	210:21	<b>periods</b> 37:3
127:21	24:19	213:18,21	<b>permanent</b>
129:13,13	<b>parties</b> 85:6	220:6	184:7
135:15	<b>parts</b> 6:19	<b>per</b> 49:12 59:6	<b>permissible</b>
140:11	39:22	78:20 85:25	83:1 190:18
143:17 151:3	<b>party</b> 44:18	87:24 88:8	<b>permission</b>
151:9,13	85:5 130:19	88:20 89:7	55:16

<b>permit</b> 68:25	127:9 142:6	147:10 148:5	<b>portal</b> 111:7
<b>permits</b> 68:21	153:3,7	153:18	<b>portion</b> 58:6
<b>permitted</b>	155:3 184:10	163:10 175:2	96:6 122:1
136:2	228:10	175:9 183:7	129:8 139:8
<b>person</b> 31:7,15	<b>placed</b> 32:15	189:2 191:11	164:23
32:19 34:25	32:19 91:20	214:7 216:21	<b>portions</b>
128:19,21	138:20	217:11	131:21
185:14 190:1	152:25	<b>pointed</b> 107:19	<b>ports</b> 75:24
<b>personal</b> 81:25	<b>places</b> 68:12	119:8 143:8	<b>pose</b> 162:7
<b>personnel</b>	86:21 87:8	160:11	<b>poses</b> 199:3
13:13	<b>plain</b> 124:25	172:18	<b>position</b> 35:2
<b>person's</b> 99:19	<b>plan</b> 118:17	200:18	36:15,18,21
<b>perspective</b>	195:3	<b>points</b> 82:10	38:19 168:18
33:24	<b>planning</b> 180:8	202:5 218:10	169:3,11,16
<b>pertained</b>	194:16	221:10	171:11 192:6
218:19	<b>plans</b> 174:22	223:20	213:24 214:3
<b>ph</b> 7:22,23 8:9	<b>plastic</b> 100:24	225:13	214:6
8:10 146:13	<b>plausible</b>	<b>policies</b>	<b>positioned</b>
172:8,8	63:12	182:18	36:20
183:10 186:7	<b>please</b> 30:17	<b>poll</b> 22:13	<b>positive</b>
186:19 187:7	60:3 81:13	23:13 24:1	186:15
192:15,16	107:16	24:10 41:23	<b>possible</b> 10:20
<b>phrase</b> 223:14	166:14 169:5	45:21 52:19	35:14,21
<b>physical</b> 43:24	<b>pleased</b> 12:12	57:18 60:13	81:9,22
44:24	12:25 13:9	96:22 97:8	146:16
<b>Ph.D</b> 3:15,16	<b>Plexiglass</b>	128:11	149:11
<b>picked</b> 116:20	100:24	144:23 146:3	167:24
<b>picture</b> 134:10	<b>plug</b> 74:24	185:15 209:2	<b>possibly</b> 83:18
153:20	<b>plugged</b> 128:17	209:15,19	175:1
<b>piece</b> 6:17,17	167:4	210:2,9	<b>post-election</b>
114:25	<b>plugs</b> 105:14	211:23	50:8 104:22
173:15	105:15	220:10,19	157:20
174:10	<b>plus</b> 20:19	<b>polling</b> 51:15	219:16 221:1
197:13	72:19 161:15	56:8 58:18	<b>power</b> 23:15
199:10	<b>pocket</b> 127:8,8	68:12 86:21	24:17,17
<b>pile</b> 123:13,15	<b>pockets</b> 127:10	87:8,12	51:10 74:18
<b>pipe</b> 58:15	<b>podium</b> 102:3	107:9 125:18	74:19,22,25
<b>place</b> 20:6,14	216:24	142:6 184:10	75:5,8
25:23 28:21	<b>point</b> 9:11,15	<b>polls</b> 24:12,14	140:19,23
29:24 51:15	11:18 17:12	24:22 25:1	141:1,21
56:2,3,8,9	22:15 23:20	25:10 119:17	<b>power-up</b> 24:5
58:18 87:12	66:24 68:20	157:16	<b>practice</b> 63:13
92:13 102:7	69:6 77:25	<b>pop</b> 206:3	88:11 184:11
105:4,4,13	90:14,23	<b>port</b> 75:21	184:15
105:18 107:9	109:10	76:2,3,4,5	<b>practiced</b>
121:9 125:18	144:24	121:12,14	13:14 99:20

<b>practices</b> 18:19 34:18 182:18 184:6 185:13,23 191:21 192:17 221:14,20,22	<b>presents</b> 182:7 184:21 185:25 <b>preserve</b> 70:12 182:11 <b>preserved</b> 68:6 127:22 <b>president</b> 12:4 12:9 131:4 <b>presidente</b> 131:5 <b>presiding</b> 198:21 <b>press</b> 37:14 38:21 72:23 100:13 134:12 207:25 <b>presses</b> 47:24 133:1 <b>pressure</b> 10:19 <b>pretty</b> 66:19 113:16 213:13 <b>prevent</b> 50:6 51:8 95:16 104:20 106:1 106:2 113:8 128:14 140:17 141:16 142:9 200:13 <b>preventative</b> 150:13 <b>preventing</b> 114:21 <b>prevention</b> 115:23 <b>prevents</b> 116:14,15 118:15 <b>previous</b> 106:12 <b>pre-election</b> 50:7 104:21 156:20	157:13 <b>pre-lat</b> 110:23 157:2,11,14 167:22 <b>price</b> 202:20 <b>primarily</b> 84:16 <b>primary</b> 20:10 <b>Princeton</b> 28:8 211:9 <b>print</b> 17:16 19:11 25:17 25:18 26:19 27:8 31:11 39:4 58:10 64:19,25 98:8 121:6 <b>printed</b> 14:13 32:16 35:16 47:19 48:1 49:24 50:10 54:8 67:4 74:6 78:9 92:4 95:21 106:8 115:2 131:1,20 133:3,18 135:21 142:10 184:9 217:13 <b>printer</b> 22:4 26:18 27:16 27:17 49:7 49:22 50:11 51:5,7,10 52:6,11 60:2 63:19 74:25 75:21 85:19 85:20 90:25 91:16 95:14 95:16,22 96:7 103:23 103:24 105:22 106:9 121:5,9 135:7 136:6	136:7,15,18 136:23 140:14,16,19 140:24 141:2 143:10 147:13 148:4 148:8,16,23 150:23 152:7 152:9 156:7 162:22,25 172:6,6 178:18 179:4 179:10 194:8 200:22,24 206:3 209:8 209:8 <b>printers</b> 59:8 59:18,20 69:18 70:1,7 156:10 198:9 202:9 214:16 <b>printing</b> 60:8 97:4,16 135:3,9 137:2 147:11 <b>printout</b> 19:3 19:14 54:7 54:19 64:12 109:18 133:22 <b>prints</b> 64:14 97:13 183:20 <b>prior</b> 26:3 47:9,21 62:9 78:11 100:6 125:15,21 137:14 218:9 <b>privacy</b> 17:20 63:2 70:13 127:22 130:14 182:7 182:8 183:6 184:22 185:12 186:1 189:5 190:8 193:7 198:15
--	--	--	---

198:18	151:4 152:2	<b>produces</b> 187:3	169:17
<b>private</b> 27:23	152:6,20	<b>product</b> 161:14	<b>prompt</b> 17:1
29:17 47:12	156:20,22	162:1	52:1 142:13
62:12 130:17	157:20 159:7	<b>production</b>	<b>prompter</b> 54:13
<b>privately</b> 99:1	159:9,16,23	158:4 181:3	<b>promptly</b> 61:18
128:2,7	160:2 175:24	<b>products</b>	90:15 218:17
<b>privilege</b> 34:6	179:13	137:19 139:1	<b>prompts</b> 16:24
<b>probably</b> 5:17	182:19 183:4	164:3	<b>promulgate</b>
9:4 10:14	197:9 216:14	<b>Professional</b>	124:22
59:14 68:6	217:18	228:4	<b>promulgated</b>
81:6 143:15	219:12,16,20	<b>professor</b> 4:5	214:15
171:17	219:22	8:1,2 35:19	<b>pronunciation</b>
173:10	220:14	36:4 40:18	34:25
174:19	<b>proceed</b> 8:16	40:20 43:7	<b>proof</b> 27:3
182:25 184:7	14:6 20:20	43:11 45:2	216:18,19
185:8	37:15 38:9	46:4,5,6,12	223:22
<b>problem</b> 33:10	38:21	46:14 52:22	<b>proper</b> 13:21
33:19 82:9	<b>proceedings</b>	53:2,22	58:24 96:10
175:25	1:12 7:18	55:11 80:25	115:17
181:24 182:7	<b>proceeds</b> 37:20	81:14 82:8	<b>proposal</b>
199:4 206:5	66:18	83:14,22	210:14
209:16,18,20	<b>process</b> 7:3	164:15	<b>propose</b> 212:7
209:24	9:25 10:6	167:14	<b>proposed</b>
210:16	12:18,19	193:12,16,18	112:15 203:1
<b>problems</b> 46:19	19:24 28:18	194:10,14	<b>proposition</b>
47:2 204:2	31:24 32:7	195:14,23	202:17,18
207:16 209:3	32:12,13	196:5,10	<b>proprietary</b>
209:4 210:22	50:1 56:25	213:14 214:2	177:25
210:22,23	58:22 61:6	215:22	<b>protect</b> 28:23
<b>procedural</b>	78:1 80:1,1	223:19	49:22 69:1
13:18 106:24	84:15,15	225:14	91:16 145:17
159:14	92:6 127:1	<b>program</b> 8:16	159:7 219:21
218:20	127:15,23	8:17 25:16	225:4
<b>procedure</b> 6:14	128:25	25:18 45:14	<b>protected</b>
30:15 56:2	147:10,14	123:24 124:9	24:15 137:3
57:15 58:8	152:10	137:13,20	137:9
61:21 147:5	155:10	139:16	<b>protection</b>
195:21,25	<b>processed</b>	147:20	23:6 51:12
216:15	123:5	167:15,17	140:21
<b>procedures</b>	<b>process-or...</b>	170:13	<b>protections</b>
6:17 13:14	13:18	206:19 222:5	23:9 50:3
13:21 43:2	<b>produce</b> 14:13	<b>programmed</b>	104:17
58:1 60:20	76:14 103:11	167:19	201:11
96:11 106:15	158:1	211:10	<b>protective</b>
124:14	<b>produced</b> 101:7	<b>project</b> 12:8	29:16,16
150:10,20	129:16 150:7	42:5,22	30:9 100:16

<b>protector</b> 28:25	172:23 177:21	224:22 225:1 225:2,6	<b>quantities</b> 156:10
<b>protects</b> 67:9 201:4	187:23 188:2	228:6	<b>quantum</b> 181:13
<b>protocol</b> 75:22 76:7,9	<b>provides</b> 94:10	<b>publicly</b> 75:20 121:19	<b>question</b> 26:21 27:22 33:1
<b>prove</b> 27:4	<b>providing</b> 17:23 96:23	<b>publish</b> 206:25	57:10 65:7
<b>provide</b> 6:25 14:18 15:14	101:20	<b>pull</b> 15:24	80:15 83:7
34:25 40:18	115:14 124:2	<b>pulled</b> 209:6	89:16 97:12
52:7 54:25	153:20	<b>purpose</b> 5:10 34:22 114:20	113:16
60:16 75:20	155:16 180:1	115:22 116:5	115:19 157:9
100:10	195:9	158:18 169:3	163:11 164:1
101:24 102:9	<b>proving</b> 193:3	181:11 191:4	165:14,18
123:3,24	<b>provision</b> 153:1	<b>purposes</b> 93:18	167:9,13
124:13,25	<b>public</b> 1:4 4:3 4:8 7:6,17	125:25 126:2	168:1,10,15
125:23	8:5 9:16	126:11 158:9	169:7,10
126:10,15,17	10:4,5 27:22	166:7	170:18 172:2
139:20,22	28:15,16,21	<b>pursue</b> 181:3	172:7,12
146:1 148:17	28:22,23	<b>put</b> 6:3 9:4 24:5,15	173:19,20,22
149:20 150:8	29:3,15 30:8	27:13,15	174:1 175:7
150:18	69:2 77:6	35:16 36:3	176:16,23
151:21 154:4	93:22 104:23	55:9 56:8	177:11 178:2
155:1 158:3	112:9 128:14	57:12 58:14	179:25
159:16 160:1	159:12	70:21 94:2	180:14 189:5
163:22	164:12,19,23	97:21,24	189:13
177:18,19	165:11 169:1	105:24 139:1	213:11 226:8
188:25 190:7	169:22	162:22 170:6	226:9
199:2 207:2	177:24	184:2,3	<b>questions</b> 7:19 10:1,6 12:13
226:4	180:10	189:21	16:11 30:8
<b>provided</b> 61:4 61:23 92:9	181:11,19	190:13,24	42:16 52:21
94:1 98:17	183:5 184:7	211:7	53:9 56:4
101:15	184:18 185:8	<b>puts</b> 79:19 184:12	59:3 77:6
102:18	188:3 191:2	184:12	78:1 89:25
118:22 123:9	191:19 192:5	<b>putting</b> 37:8 92:7	93:11 95:10
123:11,20	194:12,25	<b>p.m</b> 91:2,3 165:1,1	106:20
124:19 125:6	204:5 212:16	227:1	109:10 117:1
125:9 146:2	212:17		120:13 129:4
146:17 151:1	213:16 214:7	<b>Q</b>	148:11
151:21	215:8 216:12	<b>qualitative</b> 41:5	160:19 162:6
152:12 154:8	216:17	<b>Quality</b> 12:4	163:8 165:21
154:15	217:16,16	<b>quantitative</b> 41:8	166:3,17
156:12 158:5	219:9,25		174:19
159:22	220:16		176:11
161:21,24	221:12		177:18 181:6
	222:15		201:13,23
			207:19

208:12 213:6 213:7,9 <b>quick</b> 19:21 80:15 <b>quickly</b> 22:4 35:11 55:8 84:14 210:9 <b>quite</b> 6:13 7:24 40:7 74:15 <b>quote</b> 41:6 101:17 106:7 113:17 115:20 142:12 221:18 <b>quoted</b> 202:6 202:20	188:22 203:21 <b>rather</b> 16:10 82:22 90:21 93:7 202:4 205:25 211:21 <b>reaction</b> 189:11,19 <b>read</b> 21:19 32:17 47:15 61:22 62:16 62:17 84:11 84:12,18 91:25 99:6 109:24 111:1 111:10 113:10 114:20,23,25 115:16,23 116:1,5,11 116:13,21 122:6 123:5 143:16 151:13 156:17 158:19 167:6 167:15 185:15 <b>readable</b> 101:7 101:12 103:11,16 104:9 114:17 158:9,15 160:12 195:12 <b>readily</b> 111:2 111:9 <b>reading</b> 117:2 <b>reads</b> 47:18 48:11,13 49:7,17 50:3 50:13,15 51:5,14,17 52:5,15 62:7 91:11 95:14	98:24 117:8 118:23 122:1 143:17 148:19 157:23 199:11 <b>ready</b> 10:21 11:16 23:20 40:1 <b>real</b> 14:16 44:24 211:4 <b>reality</b> 85:13 <b>realize</b> 145:3 169:23 192:25 <b>really</b> 6:7 56:24 66:11 84:14 90:17 92:10 116:2 125:19 126:8 153:25 157:21 166:11 176:15 182:14 184:22 185:25 186:1 186:5 190:3 190:7 192:2 192:9 197:20 200:9 203:9 203:11,20 205:8 209:16 214:25 215:15 <b>Realtime</b> 228:5 <b>real-life</b> 144:9 <b>reapply</b> 58:8 <b>rear</b> 48:3 54:20 <b>reason</b> 17:7 26:23 49:3 69:25 171:21 189:23,23 210:1 217:10	<b>reasonable</b> 72:5 168:20 168:21 169:13 221:22 <b>reasonably</b> 102:12 <b>reasons</b> 43:5 139:23 145:1 187:13 193:6 193:7 196:2 212:5 215:18 <b>recall</b> 26:6 136:5 140:23 146:12 <b>receipt</b> 22:7 37:14 <b>receive</b> 10:14 22:11 166:1 <b>received</b> 10:13 61:1 102:22 <b>receiving</b> 93:18 <b>recently</b> 214:15 223:10 <b>recertified</b> 218:18 <b>recess</b> 74:11 91:2 93:16 165:1 <b>recognition</b> 206:11 <b>recognize</b> 208:3 <b>recollection</b> 28:19 <b>recommend</b> 25:12 92:20 105:12 141:14 186:2 193:7 203:16 219:10 <b>recommenda...</b> 146:24 223:4 <b>recommenda...</b>
<b>R</b>			
<b>race</b> 17:15 186:13 187:9 <b>races</b> 187:9,10 187:11 <b>radio</b> 163:13 <b>rail</b> 105:20,20 <b>raise</b> 55:13 189:4 <b>raised</b> 176:11 198:16,19,20 198:25 201:22,24 206:6 214:9 221:11 <b>ran</b> 197:20 <b>random</b> 16:8 69:14 89:18 215:5 <b>randomization</b> 45:7 <b>randomizing</b> 190:16 <b>range</b> 56:13 <b>ranges</b> 96:21 97:7 <b>rate</b> 58:12			

6:5 14:1 156:9 <b>recommended</b> 57:15 150:20 202:1,11 <b>reconciling</b> 124:16 <b>reconvene</b> 90:15 175:8 226:22 <b>record</b> 5:8,12 14:16 17:16 17:24 19:12 30:2,24 34:15 35:16 39:23 41:7 41:18 46:20 47:12,15,18 47:20,21,24 47:25 48:5 48:11,12,14 48:16,17,23 48:24,25 49:1 50:14 50:22,22,23 51:22 52:8 54:3 60:23 61:20 62:12 62:18 64:2,4 64:4,5,10,13 67:7,13 69:6 70:13 73:15 76:13,15,16 78:6,7,8,10 78:12,14,15 78:17,19,21 78:22 79:9 79:11,12 81:17 83:4 83:18 85:2 86:5 91:6,18 94:2 96:18 98:15,16,23 98:25 99:6 100:3,6,18 101:7 102:1	102:6,22,23 103:11 104:16 107:1 107:5,6,12 107:20 108:3 109:12,15,17 110:23 111:18,20 112:1 114:7 114:16,18,21 114:23 115:2 115:3,9,9,21 115:24,25 116:3 117:5 117:10,12,13 117:17,24,25 118:1,21,25 119:1,1,24 122:8,9 129:16,23 130:8 132:21 133:1,3,7,18 134:19 135:3 135:4,5,12 135:17 137:3 143:21 148:18 149:23 153:16 158:8 158:12,17,23 159:18,19 160:3,14 162:1 163:10 165:3,7 169:21,25 170:7 174:2 179:19 182:3 184:7,7,8,18 185:3,24 188:1 190:5 191:19 193:15 194:9 194:15,17,20 201:8 203:3 212:15 216:8 216:22	221:18,25 223:16 226:17 <b>recorded</b> 18:15 18:17 31:23 37:12 47:22 52:10,12 78:12 100:7 148:21,24 <b>recording</b> 127:23 135:3 <b>records</b> 41:21 41:22,22,24 44:2,2 45:20 46:21,22 48:14,19 49:2,25 50:10,15,18 50:25 51:1,2 67:3,24 70:11,18,20 76:24 79:6 79:13,13,20 79:23,23 80:2,12,18 83:10,13,17 84:22 92:5 95:21 101:22 106:8,25 117:4,10,20 118:2,3 119:3,4,5,17 120:17,18 121:18,24 122:1,4,10 122:12 123:1 123:4,25 124:15,16,17 130:14 132:6 142:9 151:6 152:10 159:11 171:18 185:8 191:17 212:16 219:24	<b>record's</b> 112:20 113:19 <b>recount</b> 82:6 84:14,20,24 157:25 158:10 159:6 184:8 215:6 219:19 220:20,24 <b>recourse</b> 174:8 <b>recovery</b> 150:10 <b>rectified</b> 222:11 <b>recycled</b> 22:20 22:22 <b>red</b> 16:23 21:5 90:10 208:1 208:4 <b>redo</b> 18:9 37:21 <b>reel</b> 50:9 95:21 106:8 109:3,3 133:5 200:21 203:4 206:1 206:1 <b>reel-to-reel</b> 17:24 26:14 26:24 68:22 71:13 83:12 84:2 108:18 198:25 200:25 201:4 219:12 <b>refer</b> 187:12 <b>reference</b> 82:11 122:15 124:25 181:15 188:19 194:11 222:14 <b>references</b> 203:24
--	--	--	--

48:21 79:7	150:17	136:1 156:7	202:2,4,13
117:22	151:12 158:1	168:23	203:13
171:23	159:21 160:7	<b>reliable</b>	<b>replaced</b> 96:2
<b>referring</b>	<b>regression</b>	192:19 193:4	150:24
170:19	30:5	<b>rely</b> 77:20	<b>replacement</b>
178:23 179:1	<b>regulation</b>	188:17	49:13,18
<b>reflect</b> 30:3	68:21 71:24	<b>remainder</b>	86:6 89:2
60:23 83:5	118:17 119:8	192:1	91:12
98:16 102:6	127:11	<b>remains</b> 185:7	<b>replacing</b>
188:2 194:10	141:14 143:4	<b>remarks</b> 30:11	91:23 203:4
224:11	<b>regulations</b>	56:7	205:25
<b>reflection</b>	13:25 14:10	<b>remedy</b> 173:14	<b>report</b> 6:4
112:19	14:21 66:22	173:17 174:3	13:1,9,17
113:19	68:23 69:7	174:9	27:3,11 47:5
<b>refresh</b> 155:8	69:10 79:22	<b>remember</b> 75:24	78:23 81:11
160:20	97:9 134:16	85:10	99:5 171:22
<b>regard</b> 10:12	219:15	<b>remind</b> 166:6	180:4,18,23
30:8,11,19	<b>reiterate</b>	166:13 169:1	181:4 186:7
55:14 69:2	204:1 212:14	<b>reminds</b> 158:25	187:7,12,18
73:3 74:13	<b>reject</b> 64:2	<b>remote</b> 152:2	195:4 197:21
78:20 92:3	132:20 212:6	<b>remove</b> 58:3,7	204:19
93:11 101:25	214:12	73:7 92:21	206:24 207:1
103:20 106:7	<b>rejected</b>	93:7 200:20	208:6,13
126:16 140:1	205:18	200:24	221:15,17
140:2,4	<b>rejecting</b>	<b>removed</b> 96:1	<b>reported</b> 42:4
155:9,10	134:18	<b>removing</b> 50:11	<b>reporter</b> 5:9
164:11 173:4	<b>rejects</b> 173:5	91:21 95:22	102:2,21
173:11	<b>relate</b> 134:1	106:2,3,9	111:25 165:6
174:24 178:9	157:21 188:6	141:10	193:14
181:19	192:2	<b>reopened</b>	216:23 217:2
182:15	<b>related</b> 60:14	157:16	228:4,5,5
186:16	132:25 154:1	<b>rep</b> 207:19	<b>Reporters</b> 1:21
194:13	159:2 188:5	<b>repair</b> 148:7	<b>reporting</b> 47:4
195:25	<b>relates</b> 101:18	<b>repeat</b> 6:6	<b>reports</b> 23:7
<b>regarding</b>	106:11 114:3	9:19 112:1	41:23 161:25
12:13 104:25	152:23	169:7 199:5	167:6 169:23
158:4 175:5	<b>relating</b> 154:7	<b>repeatedly</b>	178:4 180:2
<b>regardless</b>	<b>relative</b> 64:14	63:11	180:19 194:6
84:13	87:7	<b>repeats</b> 19:25	<b>represent</b>
<b>regards</b> 117:6	<b>relay</b> 74:5	<b>repetitive</b>	107:22
<b>registered</b>	<b>relevant</b> 114:4	132:24	168:20
49:12 85:25	153:25 183:6	<b>replace</b> 57:11	<b>representa...</b>
228:4	188:15 204:9	73:7,11	115:17
<b>registration</b>	205:21	86:14,17	<b>representa...</b>
95:19 96:9	<b>reliability</b>	87:3 89:7	204:10
125:22 137:6	41:3 117:15	93:2 201:1	208:15



<b>representa...</b> 198:24 207:9 225:20 226:5	191:24 200:3 200:9 208:24	150:15 151:10 156:2	61:17
<b>representa...</b> 11:24 178:1 204:21 215:24 216:2 216:7	<b>requires</b> 5:21 67:11 150:3 152:24 189:20 190:12	159:19 160:5 217:16 <b>rest</b> 187:17 <b>restating</b> 101:14	<b>re-documen...</b> 177:20 <b>ribbon</b> 49:9,18 85:22 91:12 91:20
<b>represents</b> 169:12	<b>reseal</b> 25:1	<b>restored</b> 147:13	<b>Richard</b> 2:4
<b>reps</b> 165:15	<b>research</b> 92:25	<b>restricted</b> 223:10	<b>Rick</b> 7:23
<b>Republican</b> 85:5	<b>reselect</b> 134:21	<b>restricting</b> 159:11 219:25	<b>right</b> 7:7 9:4 11:6 24:3 36:14 38:8 38:13 46:5 59:14,16 60:18 61:15 63:3 74:16 83:14 85:8 90:4 104:11 107:20 120:16 123:7 127:7 131:6 131:11,12,20 132:2 135:23 141:19 153:4 177:2 179:17 185:1 189:3 189:20 190:12 224:14
<b>request</b> 10:1 57:6 93:15 155:5 200:7 207:11 208:5 210:19 211:17,18 215:17	<b>resides</b> 110:3	<b>result</b> 13:13 166:24 184:6 184:23 206:22	
<b>requested</b> 65:8 102:2 125:1 149:16 153:19 207:4 216:23 226:2	<b>resolve</b> 14:4 159:17	<b>results</b> 25:13 25:15 42:3 54:8	
<b>requesting</b> 151:15	<b>resolving</b> 152:7	<b>resume</b> 164:23	
<b>require</b> 75:13 85:15 128:9 219:1	<b>resonated</b> 182:14	<b>retrofit</b> 142:1	
<b>required</b> 20:21 42:3 49:19 91:13 139:18 155:1 208:25 220:15	<b>respect</b> 13:19 60:13 83:24 83:25 89:2 192:24	<b>return</b> 20:19 38:18 150:21 151:16,21	
<b>requirement</b> 97:2 119:10 119:11,18,19 139:11	<b>respectfully</b> 200:6 207:11 208:5 210:19 211:17 215:17	<b>reveal</b> 78:15 117:18	
<b>requirements</b> 41:2,12,14 74:2,3 76:19 85:19 90:24 102:10 104:7 104:15 106:25	<b>respects</b> 222:9	<b>review</b> 10:19 17:16 19:11 21:24 38:5,7 38:10,22 41:6 43:22 64:1,21,24 194:23 204:8 224:9	<b>rights</b> 200:14 <b>rigorous</b> 12:20 196:13 <b>risk</b> 81:9 <b>Road</b> 1:14 <b>robust</b> 12:19 <b>Rock</b> 1:22 <b>role</b> 181:11 <b>roll</b> 25:21,22 27:10,12,13 27:15 55:15 55:19 56:1 57:6 58:5,9 58:16,21 59:15 67:8 68:6 73:11 86:18 87:3 87:24,25
	<b>respond</b> 61:2 79:15 88:25 118:12 120:23 132:14 156:5 167:13 169:5 169:5,23 170:5 175:4 178:2 179:24	<b>reviewable</b> 48:1 133:3	
	<b>response</b> 61:2 67:12 93:12 96:14 113:16 120:15 146:17 150:4 164:1,20	<b>reviewed</b> 32:14 131:15	
	<b>responses</b> 163:21 189:6	<b>reviewing</b> 9:12 41:21	
	<b>responsible</b>	<b>revote</b> 19:6	
		<b>re-adjourn</b> 61:9	
		<b>re-adjourning</b>	

89:2,7,10,12 91:23 93:7 104:2 145:14 159:10,12 162:25 182:4 182:6 219:24 220:1 <b>roller</b> 81:6 <b>rolling</b> 44:8 <b>rolls</b> 59:10,13 88:4,7 89:10 92:14 106:14 <b>roll-in</b> 31:5 33:14 <b>roll-to-roll</b> 71:6 72:2 <b>Roman</b> 96:16 <b>Romei</b> 4:6 90:4 90:8 155:14 163:9 216:9 216:23 217:4 217:9 225:15 <b>room</b> 164:18 189:7,17 <b>Roseland</b> 1:23 <b>ROSENBERG</b> 1:20 <b>ruled</b> 169:24 <b>rules</b> 9:18 <b>run</b> 73:4 90:1 110:18 141:6 167:19 <b>running</b> 35:11 51:20 138:13 143:19 <b>runs</b> 90:9 <b>Runyon</b> 206:13 206:22 <b>Runyon's</b> 208:6 208:13 <b>Rutgers</b> 8:2 193:19 <b>R.P.R</b> 228:13	<b>safeguarded</b> 69:1 <b>safeguards</b> 105:25 218:20 224:21 <b>Safety</b> 7:6 104:24 <b>said</b> 34:16 53:5 56:23 84:2 136:5 140:1,18 147:18 179:23 182:1 182:12,13 185:7 186:4 195:7 204:21 213:8 223:21 <b>sake</b> 87:19 <b>sale</b> 212:21 <b>Salem</b> 15:8 63:15 87:9 99:25 153:4 <b>Sales</b> 12:9 <b>Sam</b> 107:21 <b>same</b> 5:15 9:9 22:24 35:8 37:20 49:4 53:21 61:21 63:20 71:12 72:10 73:1 74:18 81:19 81:20 83:3 98:9 99:9,24 100:1 103:19 111:13 112:12,15 115:8,12 118:6,7 122:20 129:24 134:4 138:16,21 141:8 153:21 155:15 157:7 168:4 195:25 211:15	217:16 <b>sample</b> 40:19 42:25 43:8 43:16 110:18 110:20 192:9 <b>samples</b> 101:10 <b>Sandy</b> 8:9 12:6 <b>Sanskrit</b> 199:23 <b>sans-serif</b> 98:12 <b>satisfied</b> 37:10 38:20 41:14 221:24 222:20 <b>satisfies</b> 154:13 <b>save</b> 119:15 201:7 <b>saved</b> 48:19 79:6 117:21 <b>saw</b> 35:15 45:21 53:21 60:5 72:3 74:24 81:6 111:13 125:12 126:4 130:4 134:10 134:11 140:23 <b>saying</b> 38:17 109:3 174:5 181:16 214:11 <b>says</b> 17:1 18:2 18:17 19:11 24:1,3 28:10 62:17 80:17 113:17 114:7 115:20 121:17 139:20 140:14 142:12 144:4 148:23 152:14 154:3	158:17 175:17 177:7 177:7 185:5 197:14 201:25 221:17 <b>scan</b> 45:20 81:1 <b>scanned</b> 45:20 <b>scanners</b> 42:14 111:10 205:7 205:11,16 213:23 214:21 <b>scenario</b> 87:16 87:21 <b>scenarios</b> 43:17 44:15 44:20 45:6 <b>schedule</b> 9:6 30:16 <b>scheme</b> 138:8 <b>schemes</b> 139:12 <b>School</b> 8:3 193:19 <b>Sciences</b> 43:14 <b>scientific</b> 169:13 186:11 187:6 187:15 192:15 205:13 214:23 221:14,19,22 <b>scientific...</b> 42:22 168:21 168:22 <b>scientist</b> 206:10,12,21 <b>scientists</b> 214:4 <b>scope</b> 169:16 192:25 216:16 <b>scored</b> 183:24 <b>scrap</b> 204:25
<b>S</b>			
<b>safeguard</b> 191:15			

<b>scrapped</b> 205:9	95:15 104:18	123:23	88:11 90:12
<b>scrapping</b>	105:10	124:12,21	101:11 109:4
215:11	141:16 218:8	135:25 139:8	116:6 127:6
<b>screen</b> 16:3,7	<b>second</b> 6:11	139:19	131:8 133:21
16:13,20	17:7 20:1,16	143:15	137:7 140:22
17:11,13	21:3 26:2	149:21	141:5 145:12
19:9,21 21:6	27:15,16	153:24	145:24
22:16 23:17	45:19 54:2	156:16,19	149:17 157:4
23:18 29:7	54:12 74:10	157:19	162:3 166:23
29:10 31:6	96:6 121:9	158:22	175:18,19
31:10 32:3	121:14	<b>sections</b> 116:3	177:14 180:3
36:15,18	160:16	134:20	180:6,23
37:13 38:5	168:15	<b>secure</b> 42:9	187:18
38:22,23	189:23	69:12 198:15	207:13 224:5
47:15 62:18	190:21	<b>secured</b> 95:15	<b>seeing</b> 21:19
99:6 100:9	216:16	<b>securely</b> 13:3	90:22 147:22
114:12	218:23	13:4	225:17
129:25 157:5	223:23	<b>security</b> 41:3	<b>seeking</b> 161:17
174:7	<b>seconds</b> 21:21	42:7 49:21	<b>seem</b> 33:8
<b>screens</b> 63:3	21:23 48:2	50:3,4 51:7	<b>seemed</b> 61:12
127:13	53:16 65:18	55:20 91:15	61:12
<b>script</b> 128:25	133:4 173:10	95:15 104:17	<b>seems</b> 33:7
157:5	173:12	104:18	56:14 61:15
<b>scripted</b> 45:13	<b>secrecy</b> 49:23	135:25	69:12 87:23
167:15,17	67:10 91:17	140:17	88:5
<b>scroll</b> 17:10	159:8 182:11	168:24 191:6	<b>seen</b> 86:15
217:15	185:1 191:24	200:17 209:1	124:9 126:12
<b>scrolled</b> 65:19	200:3 219:21	218:20	177:8
<b>scrolling</b>	224:13	<b>see</b> 9:13 15:6	<b>Seiko</b> 103:22
17:23 186:8	<b>secret</b> 200:12	16:16 17:22	103:24
186:10,14	220:8	17:22 18:20	<b>select</b> 16:3
187:2 188:23	<b>Secretary</b>	19:9,18 21:1	31:18 39:16
189:7	171:18	21:4,8 28:13	98:4
<b>scrolls</b> 18:21	218:15	28:16,22	<b>selected</b> 130:2
64:25 173:9	<b>section</b> 62:7,7	29:5,15,22	130:17,20
<b>se</b> 78:21	62:15 70:10	29:23 33:20	<b>selection</b>
<b>seal</b> 24:16,21	85:18 91:8,9	34:3 37:18	16:22,23
24:23,24	92:4 95:12	38:3,4,22	18:5 32:15
25:2,10	95:13 96:13	39:1 44:11	37:11,11,12
70:22 105:14	96:16 98:22	53:11 63:1,2	37:21 78:18
105:19 142:3	100:2,14	65:5 66:3,4	129:20
<b>sealed</b> 105:4	103:7 104:14	66:12 70:1	<b>selections</b>
137:4 142:2	106:7,20,24	70:20 72:10	16:7,16,23
153:8	111:16 112:6	76:4 81:16	16:25 18:10
<b>seals</b> 50:4	117:3,8	83:23 85:1	46:19 47:11
58:1 70:21	121:16,23	87:11,17	48:4 62:11

94:7 127:24 133:6,20 149:22 <b>self-evident</b> 160:10 <b>selling</b> 200:13 <b>send</b> 6:4 195:16 196:7 <b>sender</b> 112:8 <b>sends</b> 195:22 <b>senior</b> 12:7 42:5 <b>sense</b> 5:4 54:23 55:7 89:5 149:13 151:20 174:22 191:5 <b>sensitive</b> 53:10 <b>sensor</b> 94:10 94:19,20 <b>sent</b> 140:4 155:18 213:19 <b>sentence</b> 148:19 <b>separate</b> 114:25 <b>September</b> 171:2,23 <b>sequence</b> 68:5 68:5 <b>sequential</b> 189:5 <b>sequentially</b> 183:17 <b>Sequoia</b> 3:5,9 3:17 5:11 11:16 12:5,9 12:10 14:3 15:4 30:19 46:17 48:20 61:2 66:19 68:19 93:1 165:14 170:12	171:11 176:15 178:2 179:21,24 180:10,15 181:17 182:12 183:7 184:23 186:8 193:3 194:13 197:2 198:24 199:18 201:25 203:23 204:6 204:17,20 205:10,18,22 207:9,19 208:21 210:21 212:3 212:7,11,21 213:8 214:9 215:18,25 216:7 217:12 218:7,17,23 224:14 225:12,17,21 <b>Sequoia's</b> 57:14 218:21 <b>serial</b> 18:20 75:24 108:1 <b>serious</b> 199:4 204:2 206:4 207:16 209:23 <b>seriously</b> 62:22 <b>serve</b> 14:24 <b>service</b> 86:16 149:24 203:17 <b>services</b> 136:16 <b>session</b> 194:13 <b>set</b> 6:10 9:23 23:14 39:8 39:21 50:17 50:24 51:1 55:25 56:7	56:19 84:14 91:7 97:5 111:23 112:3 119:3,5 122:3,10,11 126:2 228:10 <b>sets</b> 45:9 <b>setting</b> 40:2 139:23 <b>set-up</b> 30:7 <b>seven</b> 32:8 82:11 103:17 214:25 <b>several</b> 137:18 174:15 189:6 198:16 211:8 212:12 213:17,18 215:10 <b>shall</b> 41:9 47:18,19 48:14 49:7 49:19 50:5 50:17 51:5 51:14,21 52:7,9,10 62:10 63:25 64:4 67:8,14 70:11 74:1,3 74:5,17 75:19 76:13 76:24 78:6,8 78:9,14,17 85:20 91:13 94:3 95:15 95:17 96:7 96:17 98:25 100:5,15,16 100:17,18 101:7,22 103:11 104:19 107:1 109:12 110:25 111:1 111:19 112:18	113:17 114:8 114:16,19 115:21 116:4 117:10,17 120:18 121:18 122:3 123:2,5,24 124:13,22,24 125:3,15,17 127:1,3,22 128:1 129:16 129:23 130:9 130:15 132:6 132:19 133:19,24 134:19 135:4 135:16 136:1 136:15,16,18 137:3,12 139:20,22 140:14 142:5 143:20 148:17,20,21 149:23,25 150:8,15,18 151:4,10 152:6 154:4 154:12,18 156:6,9,21 158:1,3,8,17 159:5,15,19 160:1,5 219:18 <b>shape</b> 197:15 197:24 220:2 <b>shaped</b> 218:1 <b>shapes</b> 223:25 <b>SHA-256</b> 111:22 112:3 <b>sheet</b> 164:10 <b>sheets</b> 48:7 49:15 54:18 54:18,19 <b>shelf</b> 138:14 <b>Shelley</b> 218:15 <b>Shi</b> 3:16 40:20
---	--	---	--

46:5,6,12,13	204:23 209:4	50:14,16,21	16:21 108:15
52:20,22	210:8,9,24	50:24 52:18	109:3 145:6
53:2,22	212:6,12,20	110:5 111:18	161:16
55:11 80:16	213:2 214:8	111:19 112:6	164:12
80:25 81:14	214:12	112:21	189:19
82:8 83:14	215:16	113:21	226:11
83:22	216:21	118:20,24	<b>single</b> 43:20
<b>shop</b> 137:16	226:18	119:2,16,16	43:21 46:22
<b>short</b> 16:19	<b>shoulder</b> 62:25	119:24	138:25
31:7 39:4	<b>show</b> 29:12	120:14 122:2	151:22 187:9
44:11 65:24	34:8 55:3,19	122:7,9	191:12
66:2 86:14	57:6 91:19	<b>signatures</b>	<b>singled</b> 218:22
89:11,15	107:13	50:19 51:3	<b>sir</b> 15:21
92:22 103:1	142:20 148:8	119:6 122:5	22:21 23:1
157:12	211:9 214:25	122:13	24:7 30:13
164:22	<b>showed</b> 22:16	137:17	34:10 35:4
177:19	105:3,3	<b>signed</b> 28:7	35:18 55:23
194:22 195:6	114:12	<b>significant</b>	59:25 63:22
223:17	221:23	10:19 33:19	65:12 66:1
<b>shorthand</b> 1:21	<b>showing</b> 5:6	80:22 222:9	67:1 68:17
109:14 228:4	56:1 96:17	223:2	69:19 70:9
<b>should</b> 10:7	96:20	<b>significantly</b>	71:14 72:4
11:10 14:22	<b>shown</b> 28:3	166:11	72:17,20,23
19:3 30:3	135:13	<b>signing</b> 28:7	73:23 74:14
47:10 48:12	<b>shows</b> 199:16	<b>signs</b> 183:21	75:23 76:21
49:11 50:13	<b>shrink</b> 138:12	<b>sign-in</b> 28:18	80:13 84:7
50:15 53:2	<b>shrink-wra...</b>	<b>sign-off</b> 58:3	96:4,25
54:25 60:23	138:15,22	<b>sign-up</b> 164:10	97:14,18,23
62:16 65:5	139:5	<b>similar</b> 49:5	98:21 104:12
71:21 75:4	<b>shroud</b> 142:1	72:9 97:18	105:8 107:13
77:22 85:24	<b>shuffled</b> 45:7	99:9 103:21	108:25 109:7
88:25 96:19	<b>shuttle</b> 138:3	140:7	109:20
98:16 101:2	139:2	<b>simple</b> 37:4	111:15,21
102:16 104:7	<b>side</b> 10:16	80:3 121:21	112:16 114:1
118:19 119:9	73:7 80:5,5	<b>simpler</b> 81:16	114:14 120:1
119:10,18	81:5 103:4	<b>simply</b> 26:25	120:25
121:24 122:2	127:7 183:23	36:23 58:4	121:10
122:15	190:12	73:5,10	123:14 124:4
139:17	<b>sight</b> 14:8	84:24,25	124:11,18
143:15 157:8	<b>sign</b> 18:16	164:5 205:5	126:3,9
167:10 169:1	185:6 190:22	<b>simulate</b>	128:8 129:18
188:2,8	190:23	211:22	130:1,11
194:10	<b>signal</b> 52:2	<b>simulated</b>	131:3 132:15
195:21	54:13 143:2	45:11 107:6	134:7 135:19
198:12	144:6,23	<b>since</b> 7:10	146:18 149:1
201:15 203:9	<b>signature</b>	15:8,11	149:10

152:11	<b>slot</b> 23:12	95:6 96:4,25	141:24
153:14	<b>slow</b> 64:13	97:5,14,18	142:25 143:1
161:12,23	<b>small</b> 139:5	97:23 98:5	144:7,11,16
163:1 170:22	164:12	98:10,21	144:24 146:6
180:12,16	<b>smart</b> 158:25	99:13,15	146:18 147:3
187:24	211:7,10	100:1,8,22	147:8,19,23
225:22	<b>Smith</b> 3:6,11	101:9 102:2	148:2 149:1
226:13	3:19 11:20	102:8,9	149:10,15
<b>sit</b> 7:23	11:21 12:3	103:14,21	150:12 151:1
207:12	15:18,21	104:12 105:8	151:7,24
<b>sitting</b> 127:7	19:5 20:13	105:12	152:11,18
220:9	22:11,21,25	107:13,17,18	154:8,15,23
<b>situation</b> 42:1	23:5,15,23	107:25 108:5	156:12,25
49:5 60:14	24:7,10 25:9	108:20,25	157:12 158:5
142:19	25:22 26:8	109:7,20,23	158:14
<b>situations</b>	26:12,25	110:14,17	159:22 160:8
102:14	27:7,14,25	111:3,7,15	161:1,6,12
<b>six</b> 203:19	29:4 30:10	111:21 112:2	161:23
214:25	30:13 34:7	112:13,16	162:15 163:1
<b>size</b> 89:9,10	34:10 35:4	113:1,6	163:16,23,24
96:18 97:7	35:18 36:1,9	114:1,14	170:23
97:20 98:8	38:3 53:16	115:5,10	171:10
192:9	55:22,23	116:6 118:11	172:11,13
<b>sizes</b> 40:19	57:14,21	118:13 119:7	178:4,11,12
43:8,16 97:4	59:1,9,19,22	120:1,6,10	180:1,16
98:6	62:20 63:17	120:24,25	219:7 225:22
<b>skewed</b> 48:8	63:22 64:9	121:10,13,20	<b>smoke</b> 11:3
<b>skip</b> 114:5	65:11 66:1	122:14 123:8	<b>smoking</b> 10:25
154:2	66:18 67:1	123:14,19	11:1
<b>sky</b> 222:24	67:17 68:9	124:4,11,18	<b>smoothly</b> 9:25
<b>sleeve</b> 58:15	69:19,23	125:8 126:1	<b>sneaky</b> 63:10
<b>slight</b> 30:14	70:8,19 71:3	126:3,8,17	<b>SN18558</b> 107:22
<b>slightly</b> 83:25	71:9,21 72:4	127:5,17	<b>software</b> 84:18
<b>slip</b> 14:13	72:8,17,20	128:8,16,23	84:19 123:5
28:9 183:21	72:23 73:13	129:18 130:1	123:24 124:6
183:24	73:16,23	130:6,11,16	137:11
184:12	74:14,20	131:3,7,15	139:17
189:21	75:2,7,12,23	131:21 132:3	149:14
190:13	76:10,21	132:15	154:19,24
<b>slips</b> 84:17	77:20 79:17	133:12,13	174:25
85:1 183:12	80:13 84:5,8	134:8,9,23	176:19,20
183:16	86:10,20	135:7,19	177:1,6,15
185:11	87:5 88:10	136:8,13,21	178:18 179:5
188:14	88:21 92:18	137:7,16	179:10
189:18	92:19 94:8	138:10 140:3	197:16,19,23
190:11	94:14,16	140:9 141:13	206:11

210:14,15,17 222:16,20 <b>software/f...</b> 138:19 <b>sold</b> 71:16 <b>solution</b> 60:19 70:9 <b>solutions</b> 14:4 137:24,25 139:6 203:1 213:18 <b>solve</b> 210:15 <b>somebody</b> 33:3 33:24 62:23 130:23 182:24 199:11,22 200:1 206:20 207:9 208:2 208:9 224:14 <b>someone's</b> 99:21 220:4 <b>somewhat</b> 88:5 146:4 <b>soon</b> 149:5,13 <b>sophisticated</b> 175:22 <b>sorry</b> 36:5,7 76:1 77:13 183:18 <b>sort</b> 33:7 73:21 82:7 93:14 101:5 141:25 143:9 195:24 204:10 210:21 214:22 <b>sorts</b> 200:14 211:10 224:21 <b>sounded</b> 74:9 <b>sounding</b> 132:24 <b>soup</b> 116:7 <b>source</b> 81:15	155:1,3,16 <b>sources</b> 41:20 41:20 <b>so-called</b> 13:23 76:19 138:12 179:14 191:2 <b>space</b> 33:17 37:2 138:3 139:2 <b>spaces</b> 37:3 <b>Spanish</b> 16:4 22:17,17 130:25 131:1 131:20,25 <b>Spanish-sp...</b> 131:19 <b>spare</b> 60:8 <b>speak</b> 102:3 152:20 164:11 187:17 216:24 <b>speaker</b> 35:20 36:2 <b>speakers</b> 35:21 56:9 <b>speaking</b> 22:18 128:3 181:17 <b>special</b> 43:12 116:14 <b>Specialist</b> 7:5 <b>specially</b> 85:17 <b>specific</b> 40:20 104:7 116:12 175:24 220:14 <b>specifically</b> 8:19 28:20 78:1 205:18 <b>specificat...</b> 101:23,25 102:10 103:10 104:13 154:6	156:7 214:14 <b>specifics</b> 5:18 73:17 <b>specimen</b> 101:15 132:9 <b>speech</b> 32:1 <b>speed</b> 64:13 84:13 <b>speedy</b> 85:3 <b>spell</b> 37:6 38:1 <b>spelling</b> 37:7 <b>spend</b> 176:4 205:23 <b>spending</b> 203:5 215:14 <b>spent</b> 42:21 204:25 212:18 215:12 <b>spoil</b> 18:25 19:5 108:15 146:25 147:12 <b>spoilage</b> 20:22 94:24 135:9 <b>spoiled</b> 53:12 108:11,13,23 132:10,11 135:4 <b>spoiling</b> 19:17 <b>spoken</b> 193:12 <b>spool</b> 67:6 159:3,5 181:23,25 184:16 185:23 186:2 190:18 191:17,23 199:14,17 201:5 202:2 219:18 <b>spool-to-s...</b> 67:8 159:10 219:11,23 <b>spot</b> 22:14	<b>spreadsheet</b> 172:23 <b>spreadsheets</b> 80:4 <b>spurious</b> 63:1 220:22 <b>spuriously</b> 220:8 <b>spy</b> 99:20 <b>stability</b> 33:17 <b>staff</b> 42:6,15 92:24 225:23 <b>stage</b> 74:25 <b>stand</b> 99:15 118:14 182:25 217:22 218:9 <b>standard</b> 16:17 33:16 75:20 75:22,24 76:1,2,7,11 111:1,4,8,13 113:2 115:12 116:22 140:8 147:5 179:16 195:20 <b>standards</b> 9:23 75:13 116:23 172:9,15,16 179:15 196:14,19 197:5,6 212:4 222:7 <b>standards-...</b> 120:20 <b>stands</b> 47:16 62:18 99:7 <b>staples</b> 183:16 <b>start</b> 7:13 24:3 55:25 56:12,14 61:6 62:5,24 79:3 90:17 90:25 <b>started</b> 128:10
---	--	---	---

<b>starting</b> 189:2	166:2 176:25	<b>step</b> 119:21	<b>strenuous</b>
<b>starts</b> 116:9	<b>statements</b>	179:13	146:4
<b>state</b> 1:1,7	8:20 118:14	215:14	<b>strictly</b> 14:9
5:25 6:10	165:20,25	<b>steps</b> 6:17	161:15
9:23 10:17	<b>states</b> 57:22	<b>step-by-step</b>	<b>string</b> 184:2,3
10:21 11:25	57:23 58:20	127:14	184:12
12:14,17	58:23 71:17	<b>still</b> 21:2	189:21 190:7
14:25 16:2	72:13 86:6	37:7 54:4,9	190:13,24
17:13 18:12	139:9 160:21	81:22,24	<b>stripped</b> 67:19
21:15 22:8	160:25 161:9	83:6 99:9	<b>structure</b>
30:25 33:25	161:13	103:8 112:11	123:3
52:24 57:21	174:15	118:6 134:3	<b>studies</b> 186:11
58:20,20	200:11	152:24	205:13 211:8
59:10 61:23	205:14,19	166:19 167:6	211:8 214:24
65:8 68:23	214:15	<b>stimulants</b>	215:7,11
71:3,24 72:8	215:10	11:12	<b>study</b> 205:2
74:1 85:7	219:17 228:6	<b>stop</b> 86:2	<b>stuff</b> 101:1
92:25 93:1,5	<b>State's</b> 154:14	143:11	<b>sturdy</b> 33:12
93:8 120:9	168:19	<b>stopped</b> 90:20	<b>style</b> 31:19
122:15	171:18	91:8	36:22
126:21	<b>static</b> 55:8	<b>stopping</b> 143:6	<b>styles</b> 69:17
134:15 149:8	<b>stating</b> 167:23	<b>stops</b> 90:1	69:22
154:4,22	<b>statistic</b>	142:21 144:5	<b>sub</b> 151:17
155:2,4,5	73:21	144:12	<b>subject</b> 15:7
156:3 162:16	<b>statistical</b>	<b>Stop/Start</b>	62:14 64:7
163:2 169:12	42:8 43:13	24:2	86:3 121:25
170:24 171:1	<b>stature</b> 31:8	<b>storage</b> 48:3	145:25
184:1 194:15	<b>status</b> 18:23	49:22 50:5,9	<b>subjected</b>
194:21	150:22	91:16 95:21	41:12
200:10	155:12,15,23	102:10,11	<b>subjective</b>
203:11,22	155:25	103:15	41:5
205:23 208:9	<b>statute</b> 14:15	104:10,16,20	<b>submit</b> 14:20
208:25 212:5	18:12 22:2	104:25 106:8	66:1 84:8
212:8 214:1	28:20 64:21	133:5 137:2	85:3 134:9
214:8 218:15	148:7 152:23	<b>store</b> 50:13	154:12
<b>stated</b> 12:16	203:16	70:17 118:20	195:11 204:7
60:6 99:5	<b>statutes</b> 29:18	<b>stored</b> 67:4	<b>submitted</b>
137:21 139:8	224:19	70:12,20	101:10 178:4
162:10,21	<b>statutory</b>	78:18 100:7	<b>submitting</b>
182:20 212:9	182:9 185:4	101:22 103:9	194:16 195:4
215:19	193:25 197:6	142:10	<b>subparagraphs</b>
<b>statement</b>	197:9 214:13	<b>storing</b> 101:25	153:24
11:17 55:10	<b>stay</b> 53:5 55:8	<b>story</b> 86:14	<b>subsequent</b>
60:2 89:1	98:9	<b>stray</b> 113:9	151:18
92:14 101:16	<b>stenographic</b>	115:15	<b>substantial</b>
162:17 163:3	228:9	116:15	188:4



<b>substantive</b> 101:5	<b>superfluous</b> 5:17	73:10 93:6	190:18 212:8 214:12
<b>success</b> 15:9 72:22	<b>superior</b> 186:16	<b>switch</b> 23:15 57:24 92:11	
<b>successful</b> 13:8,12	<b>superseded</b> 92:2 95:24	<b>sworn</b> 220:17 224:22	<b>T</b>
<b>successor-...</b> 161:14	<b>supplement</b> 60:2 163:20	<b>synch</b> 28:17	<b>table</b> 103:5
<b>such</b> 41:5,9 42:13 51:19 54:17 66:22 84:24 87:17 88:23 100:19 114:16 124:1 129:16 133:25 142:7 143:18 153:21 155:3 158:4,8 159:8 160:12 219:22 221:13	<b>supplements</b> 93:19	<b>synthesized</b> 34:12,21	<b>tabulating</b> 215:2
<b>sufficient</b> 49:8 85:21 87:6 115:7 170:5	<b>supplied</b> 42:11	<b>synthesizer</b> 31:25 39:14	<b>tactile</b> 31:19
<b>sufficiently</b> 190:17	<b>supplies</b> 142:8 143:7 156:11	<b>system</b> 5:5,12 8:21 41:10 44:1 52:3 65:12,13 67:20 71:1 79:24 98:11 108:18 112:15 117:16 120:5 121:2,3 123:2,23 124:13 136:3 136:3,21 137:11 138:2 138:13 142:15,17 144:5 145:2 146:8 154:20 162:2 177:20 181:23,25 182:10,16 184:16,24 185:24 191:16,23 198:25 201:5 201:10,11,18 202:1,13,14 207:17,22 211:15 214:20 215:1 215:2	<b>tag</b> 51:7 140:17
<b>suggest</b> 59:7 192:12 201:12	<b>supply</b> 49:9,19 85:22 91:13 128:16	<b>systems</b> 3:5 12:5 14:19 15:5 137:23 156:13 188:22,23	<b>take</b> 5:23 8:5 10:3 14:11 18:8 22:6 26:16 28:12 30:4 34:5 35:12 39:7 57:12 58:5 80:11 82:4 87:15 90:14 91:9 107:4 108:13 110:14 119:11,20 126:19 138:25 142:16 147:2 164:9,22 168:2 170:1 173:12 196:1 196:3 200:15 200:16 201:7 201:18 208:6 208:24 224:19 226:10,23
<b>suggested</b> 53:16	<b>supported</b> 187:14		<b>taken</b> 1:12 35:24 210:5 210:6,24 228:9
<b>suggesting</b> 217:2	<b>supposed</b> 185:15 209:7		<b>takes</b> 17:3,12 26:18 32:7 56:2,3 64:18 81:2 169:10 175:14 184:11 215:13
<b>suit</b> 18:19	<b>sure</b> 29:1 36:1 37:16 52:22 65:11 67:11 68:5 75:14 115:19 123:14 141:24 146:7 166:12,16 173:19 174:20 176:23 179:19 186:24 223:12 224:22 226:3		
<b>Suite</b> 1:22	<b>surface</b> 100:21		
<b>suits</b> 126:22	<b>surprised</b> 217:9		
<b>sum</b> 222:23	<b>suspend</b> 51:21 143:20		
<b>summarize</b> 33:23	<b>suspended</b> 52:10 148:20		
<b>summary</b> 16:13 16:20 17:11 19:9,20,21 21:5 129:24	<b>swap</b> 57:15,23 60:17 73:5		
<b>sums</b> 116:17			

<b>taking</b> 49:10 58:16 61:8 85:23 91:22 169:2 210:6 220:6	160:10 220:5 220:14,21 221:2	145:18 160:21 162:13	170:11 172:3 173:4,11 174:23 175:3 176:16 177:4 177:8 178:15 179:2,7 188:15,18 194:5 198:23 202:22 208:8 208:11 217:23 218:9
<b>talk</b> 45:9 188:21 198:18	<b>tapes</b> 84:17 85:1 220:16 224:15	<b>telling</b> 7:14 138:7 209:11	<b>tells</b> 24:1 207:25
<b>talked</b> 99:10 103:16 112:23 179:22	<b>task</b> 83:20	<b>ten</b> 189:16,17	<b>tend</b> 186:10,17 186:19
<b>talking</b> 178:24 202:15 216:17	<b>taxpayer</b> 202:15 212:11 215:14	<b>term</b> 157:11	<b>terms</b> 44:17 69:12 93:19 144:23 216:12 217:18
<b>tallied</b> 222:1	<b>team</b> 12:11 42:5,21 53:24 194:7 198:17 208:18 209:13 210:17 212:3 213:7	<b>territory</b> 9:10	<b>testing</b> 12:20 40:25 42:1 42:10,18,20 42:25 60:7 66:24,25 77:21 120:7 120:9 155:4 156:2,22 157:13 161:19 169:14 181:13,21 192:3,7,22 193:1 196:14 209:5 221:18
<b>tallies</b> 41:19 43:17 45:16 45:17,24 46:1 82:12 82:14 85:16 124:2 151:5	<b>teams</b> 85:4	<b>test</b> 13:3 16:7 16:9 20:4 40:19 43:1 43:17,20,20 43:21 44:4,4 44:5,6,23,23 45:3,12 46:1 46:2,23 82:12 101:17 107:7 166:20 166:21,24 172:15 192:8 226:10	<b>tests</b> 41:4,13 43:7,16,19 44:3,9,16 45:23 46:17 46:23 167:20 211:13 221:23 223:1 223:3
<b>tally</b> 25:7 45:18,20,21	<b>team's</b> 197:19	<b>technical</b> 42:16 81:14 102:11 146:15 154:6 225:20,23	<b>text</b> 31:25 121:21
<b>tallying</b> 158:10	<b>technically</b> 81:10 222:17	<b>technician</b> 209:9	<b>thank</b> 5:3,6 11:21 15:16 15:17 18:17 27:20 30:23 32:23,24 34:4 40:10 40:12,14 43:9,12 46:3 46:7 53:7 59:21 60:21
<b>tampered</b> 192:22 201:2	<b>technique</b> 92:13	<b>tested</b> 59:11 59:14 77:9 85:17 86:15 154:21 193:5 197:17,20 211:4	
<b>tampering</b> 50:6 51:8 95:16 104:20 140:17 218:6 224:17	<b>technology</b> 40:17 42:7 111:2,9 120:21	<b>tester</b> 47:14	
<b>tamper-evi...</b> 24:16 70:21 105:13,19 141:16 142:3	<b>tedious</b> 39:9 39:13 56:14 79:21 80:7 80:21 118:15	<b>testified</b> 73:5 99:23 120:4 120:7 150:5 213:22 218:7 222:6,12	
<b>tandem</b> 157:3	<b>tell</b> 30:18 53:19 61:24 77:9 88:14 95:1 108:24 109:21 131:13,17	<b>testify</b> 76:18	
<b>tap</b> 16:4		<b>testimony</b> 63:15 104:9 166:20	
<b>tape</b> 17:22,25 18:4 20:3,8 84:15 105:13 109:1,25 110:3 115:13 131:16 141:15			

66:6 75:17	159:13,13	200:14	133:7,17,24
75:18 77:17	165:16	211:11	134:14 148:1
82:2 84:4	167:23	212:12	148:2 173:6
91:1 92:17	174:16 176:5	<b>think</b> 5:16	173:15,22,23
95:9 96:15	180:17	12:21 28:15	174:1,10
99:12 106:18	189:12	29:24 30:2	217:11
108:7 109:8	191:10	39:25 41:15	226:23
116:24	194:20	49:3 53:5,15	<b>thorough</b> 12:20
118:10	203:20	60:12 63:14	92:25
122:23 129:2	221:16	64:22 65:17	<b>thoroughly</b>
129:10	222:17	71:14 73:4	193:5
133:11 134:6	223:25	74:14 81:15	<b>thought</b> 36:4
134:17	<b>there's</b> 188:16	89:6 90:17	52:25 158:25
135:24	<b>thermal</b> 97:12	98:11 99:22	178:14
141:11	102:9 104:2	120:3 123:5	<b>thoughts</b>
142:24	<b>they'd</b> 66:11	124:8 127:12	175:15
153:15	<b>they'll</b> 24:22	138:6 143:13	<b>thousand</b> 71:19
157:18	<b>they're</b> 6:13	144:20	72:1,1 80:2
159:24 163:5	11:16 27:25	159:13	80:5,10,11
163:24 164:8	32:1 40:1	166:17 168:7	82:4
164:25 165:9	109:4 116:7	168:11	<b>thousands</b>
169:18	130:24 141:7	171:13	42:21 79:20
170:10 181:2	141:7,9,9	174:11,12,18	<b>threat</b> 184:22
193:9 196:6	208:22	175:12 176:5	185:12,25
196:9 213:10	220:17	177:23	<b>three</b> 18:11
215:20,22	<b>they've</b> 55:9	179:15,25	19:3 39:7
217:4 223:6	72:18 84:10	180:14	42:11 86:18
225:10,16	<b>thin</b> 116:19	181:18 182:1	87:25 88:7
226:20	<b>thing</b> 29:8	182:12,13	88:15,19
<b>Thanks</b> 9:3	54:17 63:8	183:7 186:15	92:9,9 94:23
226:25	67:21 79:25	187:5 221:6	110:3 113:25
<b>that's</b> 5:11,16	84:24 159:14	222:8,12	134:18 135:6
5:23 7:24	166:18 167:9	223:3,13	135:12 145:1
10:8 14:16	186:4,15	224:25	174:15 175:2
27:14 29:3	201:7 207:24	<b>thinking</b> 23:7	189:24 190:4
29:18,20	213:15	187:6	190:15 222:8
33:1 37:25	<b>things</b> 10:23	<b>third</b> 21:14,18	223:20
39:6 54:23	34:19 39:25	21:24 22:7	<b>three-volume</b>
72:4 75:14	53:25 55:13	35:12 38:15	43:20 44:3
81:24 82:25	56:10 62:21	45:20 47:23	<b>throughout</b>
83:15 88:10	68:1 110:4	48:5 53:13	125:24
90:4,12 96:4	116:17 146:4	53:20 54:6	<b>tickets</b> 137:16
113:12 126:8	146:14	54:16,20,22	<b>tie</b> 80:2
130:6 136:11	160:13 170:2	55:7 64:10	<b>tight</b> 9:5
139:3 140:3	190:17 191:7	64:12 65:6,9	176:2 208:21
147:8 154:10	192:20	66:9 132:25	210:18

<b>tilt</b> 31:6	53:10	117:14	217:13
<b>time</b> 7:18	<b>title</b> 5:7,21	<b>top</b> 20:7 33:7	<b>trained</b> 13:13
16:16 19:10	200:4 222:18	33:11 63:3	126:6
20:16 21:15	224:20	85:18 101:16	<b>training</b> 13:21
21:18,23,24	<b>today</b> 5:6,17	105:19,21	125:4
22:6 25:3	5:20 8:23	110:10	<b>transcript</b>
38:9,11,15	12:6,12 14:7	121:22	1:12 228:8
48:4,8 53:15	15:6 40:22	129:12	<b>transform</b>
53:19,21	64:11 67:6	135:15 145:1	126:20
54:4,5,10	71:2 74:15	153:23	<b>transparent</b>
56:5,7,8	92:3 93:14	162:18	100:17,20
57:18 64:19	94:9,18	<b>torn</b> 183:25	101:4
65:8,22	103:16 128:3	<b>totality</b> 47:21	<b>transportive</b>
66:12 70:2	146:13	78:11 184:15	145:6
72:25 77:25	149:17 165:4	212:1	<b>trees</b> 14:9
78:11 81:3	167:2 170:20	<b>totally</b> 121:1	<b>tremendous</b>
100:4 106:22	173:4 174:13	191:8	15:9
133:5 134:14	176:6 178:24	<b>totals</b> 25:17	<b>trial</b> 198:20
148:13 149:7	181:16	25:18	198:24
151:24	182:14 188:7	<b>touch</b> 17:2,5	204:14
154:18 156:8	194:3,6	17:15 19:11	216:19
156:16	199:15	19:22 21:13	<b>triangles</b>
163:21 164:9	204:11	36:23 38:10	224:1
168:4 169:22	208:16	38:24 57:19	<b>troublesho...</b>
170:5,16	209:21 211:1	100:9,11	144:25
171:11	212:24	<b>touching</b> 17:18	<b>trouble-sh...</b>
172:13	214:13	60:14	152:12
175:14 176:2	217:24	<b>towards</b> 61:8	<b>true</b> 16:2
176:3,8	225:19	179:20	191:11
193:2 194:17	<b>today's</b> 5:10	180:14	221:15
194:22 195:5	188:18	<b>Township</b> 28:8	223:25
202:11	<b>together</b> 6:3	<b>to-the-point</b>	224:16 225:1
209:25 210:6	81:4 175:15	223:17	228:8
210:20,21	184:18,24	<b>trace</b> 199:13	<b>truly</b> 203:5
219:4 222:24	190:4	200:1	<b>try</b> 6:18 21:19
227:1 228:9	<b>told</b> 11:2	<b>track</b> 190:1	59:5 61:16
<b>timely</b> 94:5	155:9 188:7	212:15	66:9 83:20
145:23	207:18	<b>tradition</b>	87:13 90:17
<b>times</b> 32:10	<b>tomorrow</b> 10:14	18:19	102:8 148:1
37:23 50:6	34:3 180:7	<b>traditions</b>	148:2 155:24
84:10 86:18	180:24,25	34:17 126:22	177:18
87:2 88:1,7	188:8 225:21	152:1	200:15,16
88:16,16,19	226:22	<b>trail</b> 13:5	207:12
89:6 94:23	<b>toner</b> 49:9,18	14:18 72:12	216:11 224:4
104:21	85:22 91:12	101:16,19,21	<b>trying</b> 69:11
<b>tiptoeing</b>	<b>tools</b> 80:7	139:11	69:20 166:19

166:25	221:10,23	146:4 156:16	72:24
173:13	223:20 224:1	171:24	<b>unique</b> 48:15
176:20	224:20	182:21 191:2	117:11,13
213:16	<b>txt</b> 121:21	209:21,22	214:6
<b>tune</b> 18:15	123:6,8	218:18	<b>unit</b> 49:22
<b>turn</b> 23:16	<b>type</b> 5:24	<b>underneath</b>	50:6 58:6
44:22 45:17	79:25 97:16	121:17	74:21 75:9
215:24	100:24,25	151:10	91:16 93:3,7
<b>Turning</b> 217:21	103:19	<b>understand</b> 9:7	98:23 99:25
<b>turnout</b> 87:7	<b>types</b> 41:13	32:11 40:6	100:4,15,22
87:20	43:15,17,19	57:18 80:19	104:16,20,25
<b>twelve</b> 44:15	44:10 45:16	92:12 115:19	105:5,7,11
189:16,17	45:24 69:25	166:19,22	105:16,22
190:9	138:1	167:18	135:8 136:9
<b>two</b> 5:23 10:23	<b>typewriter</b>	171:20	141:6,18
21:2 41:13	36:22	172:12	143:4 162:22
41:19 42:22	<b>typical</b> 44:24	173:13,19	162:25 180:5
44:9,10 53:9	86:9,11 89:7	176:23	<b>United</b> 71:17
53:12 54:18	<b>typically</b> 24:2	213:16	72:12 139:9
54:21,22	45:3 68:4	<b>understanding</b>	200:11
55:13,16	84:20 85:4	92:8 95:25	<b>units</b> 57:16,23
57:10 58:2	87:8 109:1	113:13	60:7,8 68:11
63:16 67:4	145:4,5	174:14	71:15,19,20
68:11 69:17		196:17	71:23 105:18
69:21 70:22	<b>U</b>	197:18	142:1 157:3
72:19 75:13	<b>Uh-huh</b> 89:22	201:14	<b>universal</b>
76:19 80:4	<b>ultimately</b>	211:14	179:16
81:23 82:10	53:14	<b>understood</b>	<b>universe</b>
88:7 89:9	<b>un</b> 222:18	118:18 179:2	200:25
91:19 96:20	<b>unacceptable</b>	<b>undertaking</b>	<b>unless</b> 17:21
103:12	213:25	12:18	211:7
104:10 105:1	<b>unavailabi...</b>	<b>undervote</b>	<b>unlike</b> 20:9
109:4,12	106:12	188:21	21:16 22:3
116:2 132:10	<b>uncertain</b>	<b>undervotes</b>	<b>unplug</b> 76:4
132:11	212:23	77:1,5,10,11	<b>unplugging</b>
133:15	<b>uncut</b> 159:12	77:14,17	141:17
135:12	219:25	114:10 124:3	<b>unquote</b> 101:18
154:12	<b>under</b> 10:18	186:12,18	106:10
160:18 162:9	13:25 14:15	187:3	113:22
164:3 168:5	18:10 21:15	<b>undisclosed</b>	<b>unreadable</b>
173:5 174:19	22:7 34:17	154:19,24	152:10
175:2 189:24	38:12 40:21	176:18 177:6	157:24 160:4
190:4,15	64:3 66:21	222:15,16	<b>unreliable</b>
192:10	78:24,25	<b>unfortunately</b>	205:4
198:22 202:5	96:21 103:15	176:2	<b>unscrews</b> 58:4
214:5 218:10	104:10 112:6	<b>uniformly</b>	<b>until</b> 10:1,14

39:17 64:4	60:11 65:20	150:8,18	128:2 133:6
135:7 141:8	195:13	152:6 154:4	133:21
147:24	<b>user</b> 31:5,9	154:12 155:1	134:20 157:4
191:21	<b>uses</b> 71:23	155:7 156:1	199:20
193:11	126:12	156:6 157:22	<b>verifying</b>
219:12	127:25 128:5	158:3 159:15	127:23
<b>unusual</b> 88:20	211:16	160:1 162:7	<b>VeriVote</b> 27:1
88:21	<b>usually</b> 29:18	196:1 218:17	<b>versed</b> 121:15
<b>unvoted</b> 17:15	175:16	<b>vendors</b> 9:24	<b>version</b> 138:22
19:8,10 21:9	<b>utilize</b> 97:1	104:1 124:24	170:14,23
<b>upper</b> 58:6	121:14	154:1 174:13	172:20 175:1
<b>upper-right</b>	141:15	176:1 196:1	195:12
28:13	161:13	<b>vendor's</b> 6:19	<b>versus</b> 73:11
<b>urge</b> 11:11	<b>utilizing</b>	<b>Venetis</b> 4:5	115:9 135:20
<b>urging</b> 205:23	31:14 71:10	8:1,2 35:19	161:5 186:8
<b>usability</b>	71:11	36:4 164:15	<b>VI</b> 153:24
106:24	<b>U.S</b> 137:12,19	193:12,16,17	154:3
168:23		194:10,14	<b>viable</b> 203:11
<b>usable</b> 158:13	<b>V</b>	195:14,23	<b>Vice</b> 12:3,9
<b>use</b> 5:25 12:14	<b>valid</b> 168:21	196:5,10	<b>Videographers</b>
15:8,10	168:22	213:14 214:2	1:21
22:24 28:11	169:14	215:22	<b>view</b> 39:5 54:6
30:19 34:21	<b>Validation</b>	216:17 218:2	54:10,13,25
35:19,21	137:13,20	223:17,19	61:8 81:12
37:9 49:9	139:16	225:11	81:25 99:19
69:17 72:11	<b>varies</b> 23:23	<b>Venetis's</b>	100:12,18
72:16 75:6	57:21 59:9	217:21	170:4 190:11
85:22 97:10	<b>variety</b> 111:10	<b>Venezuelan</b>	<b>viewable</b>
106:1 110:25	<b>various</b> 9:12	212:22	221:25
121:2 124:23	43:24 47:8	<b>verifiable</b>	<b>viewed</b> 63:5
125:14 128:6	62:8 205:13	13:7 14:17	100:3
137:22 138:8	<b>vast</b> 85:14	139:11	<b>viewing</b> 41:17
147:24 149:8	225:1	221:25	137:2
153:4 154:5	<b>vendor</b> 5:15	<b>verification</b>	<b>views</b> 67:7
154:18,22	8:19 9:5,13	38:10 126:25	<b>VII</b> 156:19
161:10	42:11,11,15	130:9	<b>VIII</b> 157:19
162:11	43:23 48:21	<b>verified</b> 200:2	219:16
170:23 186:2	55:17 61:24	202:7 205:20	<b>violate</b> 47:2
193:25	67:12 79:8	<b>verify</b> 14:14	<b>violates</b> 22:1
205:15	101:23,24	21:24 28:17	200:2
207:10	103:10,15	28:24 37:18	<b>violation</b> 69:7
213:25 218:2	117:22 123:2	39:11 41:17	69:9
218:18	123:24	46:19 47:11	<b>virus</b> 23:3
222:15	124:13	47:20 48:4,9	<b>viruses</b> 211:12
223:25	139:20,22	62:11 78:10	<b>visual</b> 52:18
<b>useful</b> 39:25	144:19 150:4	94:6 100:5	<b>visually</b>

128:20 187:8 207:10 208:2 218:2 223:24 <b>vis-a-vis</b> 78:2 <b>VI.C.1</b> 154:2 <b>voice</b> 31:23,24 34:12,15 206:11 <b>voices</b> 34:21 <b>voided</b> 19:18 108:23 109:5 132:10 135:14,20 <b>volume</b> 44:9,16 45:23 46:23 49:3 79:14 80:18 118:4 <b>voluntary</b> 179:15 <b>vote</b> 16:6 18:16,17 19:1,4 20:24 21:1,2,3,7 37:14,24,25 39:6,8 41:19 44:4,14,18 49:14,23 54:2 55:7 56:21 57:1 63:1,6 68:5 77:7 81:4 85:16 90:7 91:17 94:23 94:23 110:2 124:2 130:24 133:23 147:1 147:18,22,24 150:1,6 152:16 166:21 167:20 173:21,21,23 185:14 191:8 191:17 192:8 199:20,23 206:15	209:25 210:8 210:8,12 220:4,6 221:25 222:1 224:5,17,24 225:5,7 <b>voted</b> 17:24 19:22 21:10 21:20 37:18 55:2 67:24 130:21 131:14 147:7 147:7 148:9 157:6 185:20 191:5 <b>voter</b> 5:12 13:7 14:11 14:12,14,17 15:25 16:24 18:3,5,23 21:17 22:6 22:11,18 23:18 26:4 28:1,3,6,23 28:25 29:4,7 29:12,19,22 31:23 32:1,5 32:9,10,15 34:20 35:9 41:6 44:18 47:10,16,19 47:24 48:2,4 48:8 52:17 53:20 54:4,7 54:10,14,25 55:1 56:13 56:17 62:10 62:19,23 63:12 64:1,6 64:20,23 65:5,9,23 67:7,14,15 67:18,19,22 67:24 68:3 69:2,13 74:7 75:13 76:14	76:19,25 77:3,7 78:9 78:18 80:12 80:23 84:12 84:13 87:7 90:9 94:5,22 95:3 96:22 97:8 99:1,7 99:17 100:5 100:10 114:9 117:18 125:17,24 126:6 127:1 127:22,24 128:9 129:20 130:2,9,19 131:11,13,13 131:16,19 132:19 133:1 133:4,6,17 133:18,21,25 134:12,19 135:9,17 138:18 139:10 143:23 147:6 147:9 148:8 149:25 150:24 173:5 173:14 174:2 174:3,9 182:2,7,8,25 183:6,20 184:22 185:5 185:6,16 190:2,10 191:5,5 198:15 199:10,12,13 199:17 200:1 200:2,13 205:19 207:25 208:10 209:19,24 210:3,11	211:22 223:25 224:9 224:13,24 225:5 <b>VoterID</b> 48:20 48:21,23 79:7,8,10 <b>VoterId</b> 117:21 117:23,24 <b>voters</b> 8:10 12:1,24 14:19 22:24 23:20 36:5 41:16 45:4 46:19 49:3 49:12,15 51:23 52:16 55:9 59:6,12 68:3 85:25 86:17 87:17 87:24 95:7 97:25 101:8 124:22 127:25 130:14 152:16 190:6 199:19 203:17 205:25 206:8 <b>voters's</b> 149:21 <b>voter's</b> 26:3 78:16 100:17 110:6 111:22 112:3 135:6 147:12 185:1 <b>voter-veri...</b> 5:12 13:5 72:12 198:7 199:13,24 214:16 224:9 <b>votes</b> 27:5,18 34:8 41:17 43:18 44:21 45:14,22 51:22 52:10
---	---	--	--

67:10 76:16	127:2,10,21	<b>VVPRs</b> 5:11	<b>want</b> 10:24
76:25 77:2,2	129:13 136:3	13:6 14:22	18:25 20:14
79:14 82:5	137:11 138:4	15:23 17:19	21:16 37:15
82:19 85:12	139:3,12	27:8 47:8	37:17 39:16
85:15 86:7,8	140:15,20	51:21 52:1	46:10 54:14
89:3,11,14	143:20	62:8 63:25	54:15 56:6
90:3 99:21	147:14	67:3 73:25	56:21 68:20
109:4 118:4	148:15,16,19	74:17 75:6	69:5 79:15
128:2 131:19	150:1,21	76:13 85:19	83:2 102:8
133:22 135:6	162:11,14	94:3 96:17	122:14
135:13	167:1,5	96:24 101:7	132:14
143:21	169:14	104:15	134:25 152:1
148:20	182:10,11	124:22,23,24	164:11,14,18
150:10 152:9	183:12,21,24	125:2,15	165:20 169:4
159:8 166:23	184:4,12,24	127:21	169:20,25
167:3,16	185:10	129:13	170:6 179:19
168:3 184:17	188:14	135:16 136:1	185:18
184:19	189:18,21	136:9,11,14	192:18,19
185:24 190:6	190:13,14	136:22	210:5 212:10
200:14,25	193:25	141:18	212:14
201:8 202:12	196:14,20	142:13	217:11
203:12 215:3	197:1,7,12	143:20 150:9	220:22 221:3
219:21	197:13 198:5	150:19 154:7	224:12
<b>Vote-Trakker</b>	200:10,14	154:13,18	<b>wanted</b> 170:13
226:24	202:19	155:2 156:3	213:23
<b>voting</b> 1:7,8	203:17,18	157:3 159:5	218:11
2:3 3:5 5:24	206:16 212:8	179:21	<b>warehouse</b>
6:6 7:9 12:5	214:7,20	219:18	24:21 102:13
13:2 15:4	224:17	<b>VVPRS's</b> 156:20	126:10
24:2,3 25:13	<b>VPPRS</b> 90:24	<b>V-e-n-e-t-i-s</b>	<b>warning</b> 20:17
28:10 30:6	<b>vu</b> 5:4	193:18	20:21 21:8
32:2,7 43:25	<b>VVPAT</b> 13:5	<b>V.E</b> 51:4	21:13 38:16
44:24 45:4,5	15:23 19:13	140:12	52:2 133:19
45:8 49:11	19:19 20:1	<b>V.F</b> 51:13	134:10,11,13
49:20 51:6	25:17 64:13	<b>V.G</b> 51:17	142:14 143:2
51:11,21	64:17 66:3	<b>V.H</b> 52:4	143:8
52:5,7,9,18	70:2,24		<b>warrants</b> 223:3
75:19 79:25	71:12,20,23	<b>W</b>	<b>wasn't</b> 92:10
80:1 85:24	71:24 74:21	<b>waiting</b> 18:22	188:15
87:16 90:1	75:9 153:6	29:6,11	210:25
91:14 94:25	161:2,16	<b>wake</b> 11:14	<b>watch</b> 30:6
95:4 107:3	180:4,5,23	<b>walk</b> 209:19	<b>watching</b> 220:6
107:10,11,23	219:12	210:4	<b>waves</b> 164:5
117:16 123:2	<b>VVPATs</b> 72:10	<b>walked</b> 160:17	<b>way</b> 12:22
123:23	<b>VVPR</b> 3:21	<b>walking</b> 61:6	18:22 24:25
124:13,21	43:25	<b>wall</b> 90:13	25:6 37:4,21



44:17 63:20	9:9 11:18	172:20	76:6,12,23
67:15 68:7	12:12,25	<b>wireless</b>	77:13,16,22
81:15 98:25	19:8 28:1	136:24 164:2	80:9,14
99:20,24	36:9,12	<b>wish</b> 17:4 18:7	81:13 82:1,9
108:12,23	38:14 53:9	19:5,22	82:13,20,25
113:23 126:6	61:5,20,22	129:7 225:6	83:4 84:3,7
165:19,23	63:20 67:5	<b>wishes</b> 54:5	85:8 86:13
168:18	70:8 71:1	<b>withdrawn</b>	86:23 87:13
174:12	91:5,9 103:8	149:24	88:18,24
183:19	138:13	<b>witness</b> 37:16	90:11 91:4
197:15,24	155:20 165:3	<b>Women</b> 8:10	92:17 93:9
201:5,9	166:21	<b>Woodbridge</b> 2:4	93:13 94:12
211:21	175:12,25	3:4 4:9 5:1	94:15 95:1,8
218:21	176:1,4,5	5:19 7:20,24	96:12,15
220:10	181:12 198:3	8:6,12 9:2	97:3,11,15
<b>ways</b> 70:12	202:15	15:17 18:24	97:19 98:2,7
126:13	216:20	20:9 22:9,19	98:14,22
138:25 198:8	217:22 218:8	22:23 23:2	99:12,22
200:12	<b>we've</b> 6:12	23:10,21	100:2,14
208:17 222:2	62:4 86:15	24:4,8 25:5	101:2,13,21
223:2	89:13 97:1	25:20 26:5	102:5,16
<b>website</b> 125:16	102:22	26:10,20	103:6,18
<b>Wednesday</b> 1:15	192:14	27:21 28:5	104:8,14
<b>week</b> 155:19,25	<b>whatnot</b> 75:25	29:13 30:14	105:9 106:5
<b>welcome</b> 173:2	<b>wheelchair</b>	32:24 33:18	106:18,23
<b>well-educated</b>	31:5,9 33:4	33:22 34:2	107:15,18
206:20	33:16	34:23 35:10	108:2,7
<b>well-known</b>	<b>whole</b> 56:13	35:24 36:6	109:9,21
206:12	92:21 96:1	36:12 39:19	110:7,17
<b>well-respe...</b>	119:17	39:24 43:9	111:5,12,16
206:12	162:21 201:7	46:3,10	111:24 112:5
<b>went</b> 30:4	201:18	52:20,23	112:14,17
53:12 77:25	202:13	53:8 55:6,12	113:3,15
93:15 158:21	<b>wide</b> 93:2	55:24 57:5,9	114:2,15
184:13	<b>widely</b> 70:2	57:17 58:19	115:18
185:21	104:3 207:1	59:2,21,25	116:25
191:20	<b>wily</b> 102:6	60:3,10,21	118:10,18
206:25	<b>Windex</b> 100:25	63:14,18,23	119:20 120:3
216:14	<b>window</b> 19:14	65:2,15 67:2	120:8,12,16
<b>weren't</b> 190:10	26:1 64:25	67:25 68:17	121:16,22
<b>we'll</b> 8:15 9:4	65:1 100:23	68:24 69:8	122:17,22
15:24 34:3	100:25 101:3	70:10,25	123:10,17,22
37:23 38:1	<b>WinEDS</b> 121:1,2	71:5,18,25	124:7,12,20
61:16 90:17	124:6,9	72:6 73:1,18	125:11 126:5
90:22	170:13,14	73:24 74:16	126:14,24
<b>we're</b> 7:1 8:23	171:24	74:23 75:18	127:12,20

128:13,18	173:1,18	209:15,19	68:18,18
129:2,10,21	174:11,18,20	210:2,9	69:4 153:3
130:3,7,13	175:11	211:23	153:13
130:22 131:6	176:10,22	<b>workers</b> 22:13	
131:10,18,23	177:17 178:8	60:13 146:3	<b>Y</b>
132:5,18	178:11,13,22	185:15	<b>year</b> 202:7,21
133:11,15	179:12,18	220:10,19	<b>years</b> 72:19
134:6,17	180:9,13	<b>working</b> 149:3	103:12,17
135:1,11,23	181:8 186:22	151:16	104:10
136:10,14	186:25	206:23 214:4	124:10
137:1,10	187:16 188:1	<b>works</b> 97:22	198:22 214:5
138:6 139:7	189:3 190:20	<b>worth</b> 101:14	214:19,25
139:19 140:6	193:9 194:9	<b>worthy</b> 204:12	<b>yellow</b> 22:14
140:11	195:8,20,24	<b>wouldn't</b> 7:12	208:1,4
141:11,19	196:9 213:10	7:14 39:20	224:2
142:4,24	213:15	56:1 66:11	<b>yesterday</b> 5:15
143:13 144:8	215:20,23	189:8 191:13	8:22 9:8
144:13,18	216:4 217:1	<b>wrapped</b> 138:12	10:5 12:16
145:10	217:6 219:6	<b>write</b> 37:9	15:10 16:14
146:12,19	221:8 223:7	39:12,17	20:10 21:18
148:10,14	223:15	<b>write-in</b> 34:8	26:6 33:13
149:4,12,19	225:10,16,24	35:12 36:8	40:8 49:4
150:14 151:3	226:13,17	36:10,11,13	61:8,11,21
151:9 152:5	<b>word</b> 19:18	36:17,23	90:15,20
152:14,22	110:21,22	37:22 38:19	94:9,17
153:11,15,17	132:10,12	44:20 57:1,3	103:20
154:10,17,25	144:20	77:2	111:14 120:4
155:22	195:12	<b>write-ins</b> 37:4	120:7 139:25
156:15 157:8	<b>wording</b> 18:18	77:1,12,15	144:20
157:18 158:7	<b>words</b> 27:10	77:17 114:9	152:19 153:5
158:16,24	92:7 136:11	<b>writing</b> 38:7	155:17 159:2
159:24	177:13	<b>written</b> 32:20	160:9 167:3
160:15 161:3	<b>work</b> 5:5 22:4	39:2 93:21	169:20
161:8,18	152:1 192:11	159:16 160:2	170:21
162:5 163:6	193:1 197:19	194:16 199:1	178:15 179:2
163:18 164:7	210:6 212:19	204:18	179:22
164:16,17,21	<b>workable</b>	<b>wrong</b> 37:6	181:10
165:2,17	150:22	95:2 142:23	182:13 186:6
166:5 167:8	151:22	161:9 209:10	187:23
167:12,25	<b>worked</b> 45:5	<b>www.rosenb...</b>	188:10,12,17
168:8,25	214:18	1:25	192:4 194:4
169:18,19	<b>worker</b> 23:13	<b>Wyle</b> 161:25	194:12 198:3
170:8,17	24:1 52:19	180:4,17	204:11
171:4,8,13	57:19 96:22	<b>Wynham</b> 3:12,20	208:16
171:16 172:3	97:9 128:11	36:14 38:8	209:21 212:9
172:11,17	144:23 209:2	56:6 68:16	212:14

213:17,22	<b>\$1,000</b> 202:9	<b>12</b> 21:21 68:13	47:17 54:12
<b>yesterday's</b>	202:14 203:5	68:14 219:17	62:6 64:8
10:13 14:7	203:14 206:3	<b>12:29</b> 91:2	72:9 78:23
30:15 188:15	<b>\$3,000</b> 202:24	<b>12:30</b> 61:9,17	78:25 79:2
<b>yes/no</b> 44:19	206:2	90:13	100:12,12
<b>yield</b> 42:2	<b>\$6,000</b> 203:20	<b>120</b> 49:14	101:17 107:7
89:14		59:14 86:7,8	127:22
<b>yielded</b> 89:11	<b>0</b>	87:24 89:3	132:23
<b>yields</b> 89:13	<b>05</b> 172:15	89:11 202:12	133:16 134:2
89:13	<b>07068</b> 1:23	203:12	139:20 151:9
<b>York</b> 228:6	<b>074</b> 171:25	<b>1200</b> 45:14	161:5,6,10
<b>you'll</b> 17:25		166:21,23	161:14
20:17 76:4	<b>1</b>	167:16,20	<b>2(a)</b> 64:3
127:6	<b>1</b> 10:25 47:6	168:3	<b>20</b> 30:5
<b>you're</b> 7:15	54:11 70:1	<b>1200-vote</b>	<b>200</b> 86:12
17:14,21	70:16 71:16	45:11 46:2	87:24
21:15 23:7	71:24 72:10	82:12 192:8	<b>2000</b> 15:8
25:5 28:11	85:20 90:25	226:9	<b>2002</b> 172:8,16
29:11 37:16	98:24 99:4	<b>14</b> 45:3 172:22	192:15
55:25 68:13	101:6 104:17	<b>14-hour</b> 44:4	<b>2004</b> 72:11,15
83:12,12	106:25	45:3 46:1	<b>2005</b> 172:8
87:21,24	124:22 151:3	89:8 192:8	192:16
88:6 90:2	158:16 161:1	<b>14-vote</b> 44:22	<b>2006</b> 171:3
109:1,3	161:5,7,10	44:23	172:19,22
127:7 138:7	161:16 162:1	<b>15</b> 30:5	<b>2007</b> 1:15
169:24	162:2 172:14	<b>150</b> 87:24	<b>2008</b> 10:22
170:19 171:4	180:4 188:11	<b>151</b> 1:13	15:15 20:5
173:1 175:7	220:19,23	<b>16</b> 226:15	149:9 198:5
178:24	<b>1s</b> 15:23	<b>16th</b> 172:19	208:23
190:14	<b>1st</b> 198:5	<b>165</b> 4:3	<b>201</b> 1:22
<b>you've</b> 36:17	208:23	<b>175</b> 86:12	<b>21</b> 71:9
169:24 175:9	<b>1:30</b> 61:18	89:14	<b>226</b> 4:8
176:10	90:16,18	<b>18</b> 21:23 53:16	<b>228</b> 1:24
220:13	<b>1:41</b> 91:3	65:18 173:12	<b>232</b> 75:25
<b>Yun</b> 3:16 40:20	<b>10</b> 52:4 76:23	<b>18558</b> 107:21	<b>24</b> 226:15
46:13	<b>10(a)</b> 77:2	<b>19</b> 5:7,21	<b>245</b> 75:25
	<b>10:00</b> 226:23	200:4 224:20	<b>25</b> 1:15
	<b>100</b> 44:4 47:2	<b>19:48.1A</b>	<b>28</b> 33:16
<b>Z</b>	<b>102</b> 188:21	182:10	<b>29</b> 188:20
<b>zero</b> 25:18	<b>104</b> 116:21	<b>19:52-3.1</b>	
27:2,18	<b>105</b> 116:21	185:5	<b>3</b>
<b>zero-proof</b>	<b>11</b> 3:5 46:25	<b>1982</b> 6:16	<b>3</b> 48:10 62:5
27:11	52:14,25	<b>1994</b> 15:12	79:1,3 103:9
<b>zone</b> 90:10	62:3 78:8,20		114:5 117:6
<b>zones</b> 23:6	78:24 153:23	<b>2</b>	120:17
	222:19	<b>2</b> 11:5 20:4	129:13
<b>\$</b>			

221:16	50 72:1	975 183:18	
3(c) 123:1	500 26:7	98 188:21	
3.0 96:19	52-vote 44:4,6	99 220:24	
3.0-4.0 96:21	56 3:17	999 183:18	
3.1.073 171:24			
3.1.074 170:24	<hr/> <b>6</b> <hr/>		
172:21	6 50:2 114:18		
3:19 165:1	200:19		
3:30 164:22	6(a) 74:3		
3:34 165:1	114:24		
30 3:7 153:1	6.3-9.0 96:21		
300 89:10	60 87:19,22		
300-some-o...	188:13		
59:13	600 86:17		
309128 116:22	61 3:21		
32-inch 31:4	67 188:11		
33:14			
34 3:9	<hr/> <b>7</b> <hr/>		
39 226:16	7 50:12 118:22		
	121:23		
<hr/> <b>4</b> <hr/>	226:14		
4 20:5 49:6	7.9.3 139:9		
73:25 85:18	70 41:11		
86:4,6 90:21	750 49:12 59:6		
114:6,7	59:17 85:25		
173:10	87:17,22		
4:52 227:1	203:17		
40 3:13 72:1			
400 25:23 26:7	<hr/> <b>8</b> <hr/>		
87:22	8 51:4 129:12		
400-foot 59:15	140:13,18		
417 111:8	80 71:19 72:1		
425 1:22	80,000 71:15		
45 206:17			
	<hr/> <b>9</b> <hr/>		
<hr/> <b>5</b> <hr/>	9 28:8,10,14		
5 3:3 49:16	51:13 76:12		
90:21 101:6	135:15		
114:15	9:00 1:16		
135:15	90 71:19 72:1		
173:10	90,000 71:15		
200:19	901 183:17		
220:19,23	9100 1:24		
5(a) 132:18	95 220:25		
5:00 93:25	950 191:1		
169:25	973 1:24		