United States Election Assistance Commission

Public Meeting

Held at

3:06 p.m.

Tuesday, April 23, 2019

Salt Lake Marriott Downtown at City Creek

75 SW Temple

Salt Lake, Utah 84101

VERBATIM TRANSCRIPT

The following is the verbatim transcript of the United States Election Assistance Commission (EAC) Public Hearing that was held on April 23, 2019. The meeting convened at 3:06 p.m. and adjourned at 6:28 p.m.

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CHAIRWOMAN MCCORMICK:

I ask everyone to silence their cell phones, please. And, as a general announcement, if you haven't signed up on our sign-up sheet to speak today, you can find that outside or with Cliff Tatum. Please do that.

I call this public hearing to order for the Election Assistance Commission on the Voluntary Voting System Guidelines. Thank you for being here and, for those of you offering comments, for your comments to the Commission regarding our consideration of the Voluntary Voting Systems Guidelines 2.0. I'm happy to say we have four Commissioners here, which is wonderful.

[Applause]

CHAIRWOMAN MCCORMICK:

The Voluntary Voting Systems Guidelines -- Principles and Guidelines document 2.0 is out for public comment right now and will be open until May 29th, so we urge those of you who have comments to please make comments. We will take each of those comments into consideration. With the increased scrutiny of our elections and our voting systems, your input to this process is more important than ever.

While the Voluntary Voting Systems Guidelines are just that, voluntary, we know that the majority of the States rely on our guidelines or testing and certification process to assure that America is voting on systems that are reliable, secure, and accessible. It is important that we have a Federal standard as a foundation for the operation of our voting systems, and it's important that we hear from the public, as well as various stakeholders in the election community, as to what those standards look like. We need to do our best to get this right, and we will strive to do so with your help.

Again, thank you for attending and participating, and I look forward to hearing your statements today and those who are commenting online.

I will now ask the other Commissioners if they have a statement to make. Vice Chair Hovland?

VICE CHAIR HOVLAND:

Thank you. It's great to be here in Salt Lake City.

Two weeks ago in Memphis, Tennessee, we held the first in this series of public hearings on the proposed set of Voluntary Voting System Guidelines that are commonly referred to as VVSG 2.0. At that hearing we discussed the extensive work that has gone into getting us to this point.

I'd like to again thank everyone who has worked on the VVSG 2.0 for the past several years. That work has brought us here to a point that we can discuss the next generation of Voluntary Voting System Guidelines.

As we heard in Memphis, VVSG 2.0 is a significant step forward to modernize voting technology and move toward a system that aligns with industry standards. We also discussed that the voluntary nature of the VVSG means that its value is only fully realized if these guidelines and the EAC's Testing and Certification program is utilized across the country. And so I look forward to today's testimony and to hearing from these witnesses on how we should move forward with the VVSG 2.0.

I'd like to thank the witnesses for being here, and I look forward to their testimony.

CHAIRWOMAN MCCORMICK:

Commissioner Palmer?

COMMISSIONER PALMER:

Thank you. I'd just like to thank everyone for being here today. Thank you for your voices during the EAC confirmation process. I look forward to working with the fellow Commissioners on finalizing the VVSG 2.0, as well as the requirements and test assertions so that we can bring the next generation of technology to voters in the public.

CHAIRWOMAN MCCORMICK:

Thank you. Commissioner Hicks?

COMMISSIONER HICKS:

Yes, thank you, Chairwoman McCormick. I think I want to just thank everyone for showing up to give their feedback on these important standards. I would note that we voted unanimously to put them out and voted unanimously for them to go out for public comment. The public still has a chance to do that, almost a month left to do that, and I look forward to hearing from what folks have to say because I believe that these standards allow for modernization of voting equipment but also allows for interoperability and allows for security and allows for folks who have disabilities to still vote independently and privately on a high level.

So, I look forward to hearing from our three panelists today, and we will take those comments into consideration as we look down the road.

CHAIRWOMAN MCCORMICK:

Thank you, Commissioner Hicks.

With that, I will call Panel I to order. Today, we have Brian Newby, Executive Director of the EAC; Ryan Macias, Acting Director of Testing and Certification at the EAC; and we have Sharon Laskowski, who is the lead on human factors -- the Human Factors Working Group at NIST, and she will be in place of Mary

Brady, the Manager at the NIST voting program. Thank you, Sharon, for filling in at the last moment. I appreciate it.

So, we'll start with Mr. Newby.

COMMISSIONER HICKS:

Before you get started, I just wanted to clarify was going on with the lights that are up here. Green means that you have time to speak, yellow means you have one minute to wrap up, and red means to be done. All right?

[Laughter]

MR. NEWBY:

So, good afternoon, Chairwoman McCormick, Vice Chair Hovland, and Commissioners Palmer and Hicks.

Today, we provide another opportunity for input into the VVSG 2.0 currently out for public comment through May 29th. While a hearing conducted on April 10th focused on the background leading to the point where the Commission voted to publish the VVSG 2.0 in the Federal Register to request public comment, today's hearing will provide an opportunity for you to hear various points of views from those who have much at stake in the outcome of voter certification. In some cases, that input will come from those who interact and serve voters directly such as Neal Kelley from Orange County, California, and Ricky Hatch from Weber County in our beautiful home State of Utah.

Both Mr. Kelley and Mr. Hatch are members of the EAC's Board of Advisors, serve as local representatives on the DHS Government Coordinating Council, and Mr. Kelley also was a member of the EAC's Standards Board and Technical Guidelines Development Committee.

You will hear from Jim Dickson, another member of the Board of Advisors, and while Mr. Dickson doesn't serve voters when they are in the active voting, he does represent the voices of the millions of voters with accessibility needs.

Dr. Philip Stark, an expert on postelection audits, will also provide another viewpoint related to voter confidence.

We are fortunate also to have representatives from two equipment manufacturers here today, including former EAC Chair Donetta Davidson from Dominion and Steve Pearson from ES & S.

Manufacturers have to turn the VVSG 2.0 into usable and secure systems for voting, and they will discuss the VVSG from this perspective.

First, Ryan Macias from the EAC's Testing and Certification program will provide an update since the last hearing from an EAC staff perspective and Sharon Laskowski from the National Institute of Science and Technology will summarize where we are from a requirements perspective.

At the conclusion of the prepared testimony and panels, should there be time remaining, attendees who have signed up will be invited to individually go to the microphone and provide up to five minutes of additional comments.

And lastly, I want to summarize where we are in this process. Section 222 of the Help America Vote Act requires that the final adoption of the Voluntary Voting System Guidelines or modification of a guideline should be carried out by the Commission in a manner that provides for each of the following: publication of the notice of proposed guidelines in the Federal Register, an opportunity for public comment on the proposed guidelines, an opportunity for public hearing on the record, and publication of the final guidelines in the Federal Register. The Commission voted for a 90-day public comment period, and this is the second public hearing on the record related to this matter.

And now for updates, I'll hand the discussion over to Ryan Macias.

MR. MACIAS:

Thank you, Executive Director Newby.

Chairwoman McCormick, Vice Chair Hovland, Commissioners Palmer and Hicks, again, I want to thank you for scheduling a second hearing on this important topic. Staff has received positive feedback for the opportunity the Commission has

provided for members of the public to testify across different regions of the country.

To begin, I would like to provide background on the Voluntary Voting System Guidelines or VVSG. To fully understand the VVSG, we must begin by looking at the Help America Vote Act of 2002, or HAVA.

HAVA Section 301(a) created mandates specific -- excuse me -- created mandates, specific requirements for voting systems used in Federal elections. However, in its infinite wisdom, the U.S. Congress also set forth a process for the Elections Assistance Commission, the EAC, the agency created within this legislation to develop, adopt, and modify Voluntary Voting System Guidelines or set a best -- set -- or a set of best practices that jurisdictions may implement.

In order to adopt the VVSG, the Congress defined a process that involves collaborative effort between the Technical Guidelines Development Committee (TGDC) with assistance by the National Institute of Standards and Technology (NIST), the Standards Board, and the Board of Advisors. The EAC, through the process set forth by HAVA, has received the TGDC-recommended VVSG 2.0, which was unanimously adopted. Further, the Standards Board and Board of Advisors each put forth a resolution to the Commission to adopt the VVSG 2.0. The Standards Board even

voted on a motion to reaffirm its support at its April 12th, 2019, meeting.

The Commission, after reestablishing a quorum, made its first mission to embark upon the final step by receiving public input through the 90-day public comment period and holding these public hearings. The 90-day public comment period began on February 28th, 2019, and concludes on May 29th, 2019. The EAC is holding this public hearing today, but it also held a public hearing in Memphis, Tennessee, on April 10th, 2019.

I'm not going to summarize the testimony from the April 10th, 2019, public hearing in Memphis, but there is one item I want to highlight regarding this collaborative effort. Mark Goins, Coordinator of Elections for the State of Tennessee and the former Chair of the EAC Standards Board, testified that the Standards Board is unique and unlike any other board he has ever served on. He stated the Standards Board is made up of local election Commissioners, State election officials, Republicans, Democrats, and Independents. It was a true bipartisan board representing all sectors of the election community.

Yet the board was able to unanimously vote on a resolution for the Commission to adopt VVSG 2.0, and then he emphasized that, quote, "No one dissented, no yelling, no partisan bickering. It was not State versus locals. It literally was collaborative effort," end

quote. This was no small feat, and it truly speaks to the cooperation that has taken place over the past three years to develop the VVSG 2.0.

Further, I want to focus on one portion of that statement. Mr. Goins mentioned that the Standards Board represent all sectors of the election community. Although this is accurate as it pertains to the community that conducts elections, the Standards Board is not representative of the entire elections community, including voters and the manufacturers that develop the voting equipment for which these guidelines pertain.

With that stated, following my testimony, you will hear from two additional panels that represent this wider election community, including election officials, academics, and voting system manufacturers. However, I do not highlight this to correct Mr. Goins. Rather, I want to underscore that the development processes include all sectors of the election community. Additionally, I want to emphasize the underlying sentiment that these entities have all worked together to put forth VVSG 2.0 that they have all agreed upon.

As mentioned in my previous testimony, the EAC embarked upon a rewrite of the VVSG in 2007, which the TGDC recommended but was never successfully adopted by the Commission. This was due in part because those entities did not

believe that the recommendation provided a set of guidelines that met the needs of their respective community. Many felt that those recommendations were seeking compromise where compromise should not be sought such as in the realm of accessibility and security. Therefore, from the outset the EAC set an expectation that compromise is not an option for the VVSG 2.0. The guidelines must meet the needs of both.

Therefore, in September 2017 during the development of the VVSG 2.0, the TGDC unanimously adopted a resolution entitled Ensuring Accessibility and Security, which states, "If a voting system utilizes a paper record to satisfy auditability principles and associated guidelines, the voting system must also provide mechanisms that enable voters with disabilities to mark their ballot and to verify and cast their printed those selections privately and independently."

Further, in 2018, the Board of Advisors adopted Resolution 2018-02 which mirrored that language, but also included the following sentence: "This language shall not preclude the use of hand-marked paper ballots as a component of a voting system." If we have not set the expectation, I'm certain the we would not have the success we have had, nor would all three EAC advisory boards provided the support they had for the VVSG 2.0. Yet, although representative of the wider election community, the advisory boards

are only a piece of the process the Congress set forth in HAVA prior to adopting Voluntary Voting System Guidelines. It also required the EAC except public input. Therefore, I will summarize the comments we have received from the public.

As mentioned at the April 10th, 2019, VVSG 2.0 public hearing in Memphis, Tennessee, at that point, 19 entities commented but 10 commenters were requesting information and did not provide input on either the content or structure. Since the April 10th, 2019, VVSG 2.0 public hearing, we have received input from an additional four commenters, each providing multiple comments. Although each individual provided multiple comments, each commenter opened with their support for the VVSG 2.0.

With that stated, to date, we have received 23 comments. Ten of those are non-substantive and the remaining 13 commenters provided general support for the VVSG 2.0, substantiating specific principles and guidelines they favor.

In closing, I want to thank each of you for prioritizing the VVSG 2.0 and for providing multiple opportunities for the public to provide input on recommendations. Further, I reiterate the concerted efforts that have taken place in the development of the Voluntary Voting System Guidelines version 2.0. It is not often if ever that State and local elections officials, Republicans and Democrats, accessibility and security advocates, and voting system

vendors and academics collaborate to develop a set of guidelines they can all agree upon. However, the VVSG 2.0 has done just that.

I do not want to get ahead of myself, but as we head down the home stretch, we should begin to focus on the finish line and the final steps needed to get the Voluntary Voting System Guidelines version 2.0 voted on and adopted.

Thank you, and I look forward to the questions you may have for me.

CHAIRWOMAN MCCORMICK:

Thank you, Mr. Macias.

Ms. Laskowski?

DR. LASKOWSKI:

Chairwoman McCormick, Vice Chair Hovland, Commissioners Palmer and Hicks, thank you for the opportunity to speak at today's hearing on the development of the Voluntary Voting System Guidelines as we move towards a new version of the VVSG.

I've worked as -- on the voting project since the Help America Vote Act was initiated primarily in human factors, but I've been involved in many of our efforts at NIST. In my remarks today I'll provide background on the VVSG versions and actions that led to a new structure for the VVSG and steps that were taken to tap

into nearly 500 experts from the election community in the development of VVSG 2.0.

For nearly two decades, as directed by the Help America Vote Act and the Military and Overseas Voters and Empowerment Act, the MOVE Act, NIST has partnered with the EAC to develop the science, tools, and standards necessary to improve the accuracy, reliability, usability, accessibility, and security of voting equipment used in Federal elections for domestic and overseas voters. This work has resulted, as you know, in the VVSG, a set of specifications and requirements against which voting systems can be tested to determine if the systems meet required standards.

VVSG 1.0 increased security requirements for voting systems and expanded access, including opportunities for individuals with disabilities to vote privately and independently. These guidelines updated and augmented the 2002 voting system standards to address advancements in election practices and computer technologies, as required by HAVA.

After adopting the VVSG 1.0 in 2005 -- and let me comment, in 2005 there were no smartphones. Technology has changed a lot since that first version of the VVSG. The EAC tasked the TGDC with developing the next iteration of the VVSG, and that was not adopted. It's currently known as the 2007 TGDC recommendations, but some portions of it were retrofitted for minor

update known as VVSG 1.1, which clarified the guidelines to make them more testable and improve portions of the guidelines without requiring massive programmatic or hardware changes. And VVSG 1.1 received unanimous approval from the newly formed quorum of the EAC Commissioners in early 2015.

In the early part of this decade, many efforts were undertaken that NIST participated in, all aimed at advancing discussions and core requirements for the next iteration of the VVSG, and NIST participated in a number of these activities working with the NASED VVSG group as they explored the simplification of the VVSG akin to efforts in the gaming industry with the EAC Futures Group to identify high-level goals with the Federal Voting Assistance Program to identify critical technology for military voters, and leading the IEEE P1622 effort on developing common data formats for use in elections to support interoperability.

At the same time, research and emerging -- recent and emerging research in voting systems were reported in two future voting system conferences sponsored by NIST and the EAC. And NIST focused on advances in core technology critical to voting systems, including universal design, mobile devices, assistive technology that provide much greater accessibility to voters with disabilities, better quality assurance and configuration management methods, the effect of new programming languages, more fault-

tolerant, increased capacity and hardware components, new approaches to data exchange, software assurance, and advancements in security that have emerged in the last decade.

Key amongst these discussions was the recognition that there's a large variety of stakeholders in elections -- election officials, election integrity advocates, usability/accessibility advocates, manufacturers, and developers, voting system test labs, academics, government agencies -- and it was important that we find a way to engage all stakeholders in constructive discussions to move forward so they all have ownership in the new VVSG.

Recognition -- we also had recognition that many technologies form the basis of the VVSGs, including usability, accessibility, security, hardware and software architectures, programming paradigms, system configuration, and maintenance. Advances -- each of these areas are separate and deep domains. Advances in these domains can substantially improve voting systems and provide election officials with methods to improve performance and decrease overall costs. And the community needed an approach that allowed for additional flexibility and innovation, particularly as election systems adapt to changes in technology.

So, this led to early discussions with NASED to a four-part approach, the principles, high-level design goals, the guidelines,

broad system design details for election officials, so that's the current VVSG 2.0 that we've been talking about, requirements which are low-level guidance for manufacturers, designers, and test labs, and test assertions which are basically various guidance and test methods to ensure the necessary breadth and depth when testing specific voting systems.

NIST presented this new approach for the VVSG at the September 2016 TGDC following up with the Standards Board, the Board of Advisors, the NASED, where it received widespread support, as we've been hearing.

We then formed a set of public working groups, working groups to tap into as many experts as possible on the front end of the process, effectively allowing all stakeholders a seat at the table. This was in stark contrast to previous VVSG development efforts where such feedback was only obtained after the VVSG draft went out for public. So, for example, 1.0 was developed in nine months after HAVA, per HAVA deadlines.

So, initially, there were three election-focused working groups, which developed election process models that serve as a basis for use cases in the development of the EAC 17 core functions that define the scope of the VVSG 2.0. The work of the constituency groups followed where gap analyses were conducted between prior versions of the VVSG -- namely 1.0, 1.1, and the

2007 version -- and the research and best practices that are pertinent to voting.

Finally, the VVSG 2.0 principles and guidelines were developed and drafted based on NIST research and discussed in detail on biweekly conference calls of the usability and accessibility, the cybersecurity, and the interoperability working groups. And then NIST, keeping with its role as defined by HAVA, brought forth the principles and guidelines for discussion with the TGDC, which voted unanimously to forward the principles and guidelines to the EAC at their September 2017 meeting.

So, in addition to the expert review by nearly 500 unique members of these working groups -- over 1,000 across working groups -- and the TGDC, the draft was presented by NIST at the Standards Board and Board of Advisors meetings for consideration and feedback. The high-level approach to describing the VVSGs provided the basis for discussions amongst all stakeholders. It's enabled crucial discussions such as the need for robust auditing capabilities for voting systems security and the need to provide accessibility for all voters.

Further, the considerable input and review on the front end of the VVSG development provides a mechanism for all stakeholders to participate in critical conversations and promotes greater transparency and understanding of these decisions, which

we will -- which we expect will continue as these draft requirements that support the principles and guidelines.

As you know, the VVSG 2.0 is currently out for a 90-day public comment period ending Monday, May 29th, 2019, and we look forward to seeing the public comments and working towards a resolution.

In closing, I want to thank you for making the VVSG 2.0 a priority, and I look forward to any questions you may have for me.

CHAIRWOMAN MCCORMICK:

Thank you, Ms. Laskowski.

I have a question -- a couple questions, and then I'll go to my fellow Commissioners.

So, Mr. Macias, are the principles and guidelines that are out for comment now in your opinion specific enough? Are there enough details in these guidelines for voting system design and testing?

MR. MACIAS:

So, voting -- for voting system design and testing, no, but that is not the intent of the Voluntary Voting System Guidelines. They are set of best practices for voting systems. In Section 202 of HAVA, the duties that are provided to the EAC, there are two -- or there are six distinctly different duties, and the first is to create a Voluntary Voting System Guidelines, which is just that, best

practices for voting systems that would be voluntary for State and local jurisdictions to adopt.

The second would be to provide for the testing certification, decertification, and recertification of voting systems. And so the requirements and test assertions are the specificity to be able to test and certify voting systems.

CHAIRWOMAN MCCORMICK:

Thank you.

Ms. Laskowski, you characterized the requirements as low-level guidance to the manufacturers, but aren't the requirements the actual guidelines that must be met and tested to in order to receive EAC certification?

DR. LASKOWSKI:

The requirements, yes, are detailed and would be then specifically looked at in the context of a system under test, and those are what would determine certification. However, I think the beauty of having high-level principles and guidelines above those is that it gives you some flexibility so that if you have something that's innovative and that maybe doesn't quite fit the requirements moving forward, it gives you a little flexibility because if you meet the principles and guidelines, you then -- which everyone agrees on, you have some flexibility in interpretation.

CHAIRWOMAN MCCORMICK:

So, the Commissioners wouldn't have a say in that. Is that what you're saying?

DR. LASKOWSKI:

I have -- I'm not saying that either way.

CHAIRWOMAN MCCORMICK:

Okay. Okay. Thank you.

Vice Chair Hovland, do you have questions?

VICE CHAIR HOVLAND:

Dr. Laskowski, you mentioned that VVSG 1.0 was adopted fairly quickly, as instructed by HAVA, and what we've been talking about is a significant structural change. Can you comment if this new structure is more reflective of industry standards in other technical fields that have been successful?

DR. LASKOWSKI:

Okay. At the high level for any design project it's important to set out what your goals are, so -- versus when we had nine months to do 1.0, we -- there was no time to do that. So, at the high level, it provides a framework in which to work with -- that you would do for any kind of technology development project.

At the more detailed level, we can -- could you repeat your question? I lost my thought bubble.

VICE CHAIR HOVLAND:

I just was wondering if the new structure nears or is reflective of --

DR. LASKOWSKI:

Oh, yes, yes --

VICE CHAIR HOVLAND:

-- other industry that has succeeded in sort of --

DR. LASKOWSKI:

So -- yes, so what we've been able to do is, one, refer to other industry standards, so, for example, the current accessibility standards under Section 508, we refer to them, and so we look to other industry-current standards and best practice in how to test for usability and accessibility, how to -- which programming language and how to structure those programming languages, and it also allows us to take advantage of these other existing standards.

VICE CHAIR HOVLAND:

And would you say that some of these changes or some of the structural change from 1.0 to 2.0 relates to -- I mean, as you mentioned, when 1.0 was adopted, smartphones didn't exist, and so has the change in technology in the last 15 years moved us to a place where it's more common to have this type of structure?

DR. LASKOWSKI:

So, it's -- so that's an interesting question. So, for things that have to be tested to a standard, yes, it does update us in having a

very principled approach to certifying a system, and it also allows us to -- and that the technology, as I said, just in terms of user interface design, for example, in terms of what we know about security, this structure allows us to take advantage of that new knowledge and technology advances.

VICE CHAIR HOVLAND:

Great, thank you.

CHAIRWOMAN MCCORMICK:

Any more questions? Vice Chair Hovland?

VICE CHAIR HOVLAND:

No.

CHAIRWOMAN MCCORMICK:

Commissioner Palmer?

COMMISSIONER PALMER:

Thanks.

Sharon, since you're in front of us and you did so much work on human factors, I'm going to play *Washington Post* reporter White House, okay? I'm going to ask you about a couple --

DR. LASKOWSKI:

NIST doesn't usually let me talk to those people directly.

[Laughter]

COMMISSIONER PALMER:

I'm going to ask you a couple questions on the principles that are under review right now for public comment.

DR. LASKOWSKI:

Yes.

COMMISSIONER PALMER:

Could you talk a little bit -- you know, and I've reviewed them. I'm trying to understand some of the language that's being used, your comfort level, how they came about, particularly because of your work in NIST. Principle 10.8 -- 10 is ballot secrecy; Principle 8, robust, safe, usable, and accessible voting systems; Principle 6 is privacy; Principle 4 is interoperability. And you mentioned interoperability, so I added that to the question. Could you talk a little bit about, if you're able to, each of those? I want to make sure that we meet these goals. These are important for voters. And so we have -- there's a lot of language in there that sort of reaches, you know, everyone's desire to have all these principles met, but I just want to make sure how we got to this language. Obviously, you had a major part with that, so I'd like to hear on those principles.

DR. LASKOWSKI:

Okay. I guess I'll start with privacy and ballot secrecy were two of the principles you referred to, and so we tried to pull that apart. So, from a human factors perspective, we're interested in

the voter privacy at the polling place, when the voter is interacting, right --

COMMISSIONER PALMER:

Um-hum.

DR. LASKOWSKI:

-- because human factors is the voter or the poll worker interacting with a voting system. And so we made a distinction between that and ballot secrecy, which, once the ballot is then being handled and the voter is not interacting any longer, you've got to preserve the secrecy. I won't talk very much more about security and secrecy. It's not my --

COMMISSIONER PALMER:

Can I talk more then about secrecy --

DR. LASKOWSKI:

Yes. Yes.

COMMISSIONER PALMER:

-- if you're able to -- if you can't answer the question, let me know. But one thing that piqued my interest is one of the issues that seem to be out there is regarding the secrecy or provisional ballot.

DR. LASKOWSKI:

Yes. Yes, yes.

COMMISSIONER PALMER:

There was discussion about that.

DR. LASKOWSKI:

I recall.

COMMISSIONER PALMER:

And I'm trying to understand why that's an issue when provisional ballots are usually going to be a paper ballot where the individuals are already filling out information identifying, plus they're signing an affirmation. So -- and there are going to be members of the election office and the general public who may know who voted that ballot because there are certain rights, disclosure requirements. So, I'm trying to understand what's the debate --

DR. LASKOWSKI:

I --

COMMISSIONER PALMER:

-- over that? That seems to be --

DR. LASKOWSKI:

Yes, so I believe it varies from State to State, but --

COMMISSIONER PALMER:

Well, I'm talking about the debate within --

DR. LASKOWSKI:

-- in terms of how one handles provisional, right.

COMMISSIONER PALMER:

On ballot secrecy, there seems to be a debate on that, so how --

DR. LASKOWSKI:

Yes, so I believe the issue is that one -- so a -- the voter -- the ownership of that ballot --

COMMISSIONER PALMER:

Right.

DR. LASKOWSKI:

-- could be exposed, right? So, it does rely on good election process, manual process in handling that --

COMMISSIONER PALMER:

So, it's --

DR. LASKOWSKI:

-- if it's necessary. I can't speak to -- I haven't studied it enough to know exactly how --

COMMISSIONER PALMER:

I think that this --

DR. LASKOWSKI:

-- necessary or not it is.

COMMISSIONER PALMER:

I think this may resolve the issue because I don't -- I think that there is -- there may be an expectation of privacy with provisional ballots, but the reality is is that that can be -- that's

waived sometimes by the voter when they actually -- they actually voted a provisional ballot, but the -- also by the courts basically said that there are certain -- there's going to be -- that information may be available to the political parties, for observers, to the electoral board, so it's not an absolute secrecy, so I'm just trying to --

DR. LASKOWSKI:

Yes, as a technologist, we should try our best to make sure we preserve the secrecy.

COMMISSIONER PALMER:

Well, obviously, yes.

DR. LASKOWSKI:

But -- right, so -- right. Right.

COMMISSIONER PALMER:

I just don't want it to be an issue. There were some issues -- this is an outstanding issue when we come to requirements and test assertions. I'm not sure it should be an issue at all because we're not going to be testing -- you know, there may be an issue of secrecy and privacy of a provisional ballot, but the reality of it is is that this is outside a lot of election administrators' hands, so it should not be an issue for requirements or testing because it's almost not relevant to the situation.

DR. LASKOWSKI:

Yes, you're absolutely right. It's outside the use of that voting system --

COMMISSIONER PALMER:

Right.

DR. LASKOWSKI:

-- as provisional --

COMMISSIONER PALMER:

So, I don't know why --

DR. LASKOWSKI:

-- yes -- so, yes. So, it appears that it may be out of our scope, but --

COMMISSIONER PALMER:

I -- well, right, and so --

DR. LASKOWSKI:

So that's --

COMMISSIONER PALMER:

-- I just don't want the EAC to get --

DR. LASKOWSKI:

-- under -- that's under discussion, but yes.

COMMISSIONER PALMER:

Right. But as a requirement or test assertion, it's not -- I don't think we should get bogged down with that issue. It's one -- I mean, I saw there were some outstanding --

DR. LASKOWSKI:

Because it's administrative.

COMMISSIONER PALMER:

It's not only administrative --

MS. LASKOWSKI:

To some extent.

COMMISSIONER PALMER:

-- but it's outside of our control.

DR. LASKOWSKI:

To some extent.

COMMISSIONER PALMER:

It's outside our control.

DR. LASKOWSKI:

Um-hum.

COMMISSIONER PALMER:

There's never going to be absolute secrecy or privacy of a provisional ballot.

DR. LASKOWSKI:

So, let's see, another part of your question was interoperability.

COMMISSIONER PALMER:

Yes.

DR. LASKOWSKI:

So, when you have -- when you're exchanging data -- and NIST writes lots of standards for all sorts of domains, you'd like to --

COMMISSIONER PALMER:

Yes.

DR. LASKOWSKI:

-- do not easy data exchange, right, so do various components of whatever it is, internet protocols, whatever, you know --

COMMISSIONER PALMER:

Right.

DR. LASKOWSKI:

-- pick something. You want to be able to have standard formats because that helps interoperability. So, similarly for voting systems, if you have a canonical form for your data, it's easier to exchange it between components, and it reduces errors.

COMMISSIONER PALMER:

And we're moving in that direction already as --

DR. LASKOWSKI:

We do have -- John Wack has been --

COMMISSIONER PALMER:

Well, I meant the --

DR. LASKOWSKI:

-- has put a lot of hard work into common data format to support that.

COMMISSIONER PALMER:

So, 4.2 talks about standard publicly available formats for other types of data or use where available. That "where available" is providing some flexibility because it's not always available?

DR. LASKOWSKI:

It's not a was available, right.

COMMISSIONER PALMER:

Okay. And commercial off-the-shelf devices can be used if they meet applicable VVSG requirements. What does that mean, applicable requirements? Those are requirements that will be designed?

DR. LASKOWSKI:

So, the applicable requirements are the VVSG requirements.

COMMISSIONER PALMER:

Well, it says --

DR. LASKOWSKI:

So, yes.

COMMISSIONER PALMER:

Okay.

DR. LASKOWSKI:

And you had one other --

COMMISSIONER PALMER:

The last -- the last one.

DR. LASKOWSKI:

The last topic, which was the --

COMMISSIONER PALMER:

Voter --

DR. LASKOWSKI:

-- perceivable --

COMMISSIONER PALMER:

Robust --

DR. LASKOWSKI:

Robust.

COMMISSIONER PALMER:

-- safe usable, and accessible. What is safe? What do you mean by safe? What -- what's -- what am I missing here?

DR. LASKOWSKI:

Oh, okay. So --

COMMISSIONER PALMER:

Do we have dangerous voting equipment out there?

DR. LASKOWSKI:

Well, there are some requirements as a matter of fact. You know, underwriters, laboratory, electrical requirements that do apply --

COMMISSIONER PALMER:

Oh, okay. Okay. All right.

DR. LASKOWSKI:

-- so at the very core, yes, you don't -- and you don't want systems to tip over and hurt a voter, for example, so there are --

COMMISSIONER PALMER:

Okay.

DR. LASKOWSKI:

-- basic safety --

COMMISSIONER PALMER:

Okay. All right. So, then that's a human factor. Now, I noticed that most of these systems have to be evaluated for usability by election workers for those with --

DR. LASKOWSKI:

No. No, but that would -- so that's actually --

COMMISSIONER PALMER:

Some -- some --

DR. LASKOWSKI:

-- poorly worded. It's not -- it's assessed for usability for election -- election workers are not assessing it for usability there. It's usable for them, as well as the voters.

COMMISSIONER PALMER:

So, do you have --

DR. LASKOWSKI:

So --

COMMISSIONER PALMER:

-- a recommendation on language for 8.4 that's a little bit clearer? Right now, it states --

DR. LASKOWSKI:

Yes, yes, we -- yes, we do.

COMMISSIONER PALMER:

Okay.

DR. LASKOWSKI:

And I don't have it in front of me, but, yes, and --

COMMISSIONER PALMER:

You might want to comment on that.

DR. LASKOWSKI:

Yes, we have some --

COMMISSIONER PALMER:

Because I know we do some --

DR. LASKOWSKI:

Well, we're working on a set of comments. It's a minor --

COMMISSIONER PALMER:

I mean, right now, we --

DR. LASKOWSKI:

-- change in language, yes.

COMMISSIONER PALMER:

-- I know the vendors and labs do some evaluation of this for voters with disabilities and for -- and for election workers, and --

DR. LASKOWSKI:

Yes, and their whole design process should be what's called user-centered so that, as they make design decisions, they get input from voters or, if it's something that election workers are -- say it's set up of the system that they're also bringing some election workers to make sure it's usable by them as well because, obviously, we don't want to have problems at the polling place.

COMMISSIONER PALMER:

Right.

DR. LASKOWSKI:

It should be as easy as possible.

COMMISSIONER PALMER:

So, 8.3 talks about the voting system as measured with a wide range of representative voters, and we talked about some of those.

DR. LASKOWSKI:

Yes.

COMMISSIONER PALMER:

Who measures that? Is that -- that's going to be in the requirements, and that's --

DR. LASKOWSKI:

Okay. So, there's --

COMMISSIONER PALMER:

-- going to be the laboratories?

DR. LASKOWSKI:

-- there's one -- in Principle 2, Guideline 2, there's --

COMMISSIONER PALMER:

8.2, yes.

DR. LASKOWSKI:

No, there's 2.2 as well --

COMMISSIONER PALMER:

Okay.

DR. LASKOWSKI:

-- is that -- that's the user-centered design process, so in the development process, in the design and development process --

COMMISSIONER PALMER:

Right.

DR. LASKOWSKI:

-- the manufacturers would indeed be employing a user-centered design process. And this is common practice in designing systems that have people operating them for 20, 25 years, so there's textbooks on what this process is, and they should report on it.

COMMISSIONER PALMER:

So, that -- so there would need to be a requirement established, and they're probably already is --

DR. LASKOWSKI:

Yes.

COMMISSIONER PALMER:

-- that a voting system manufacturer would need to bring in -- when they bring in a voting system for acceptance and testing, would they have to --

DR. LASKOWSKI:

They have a --

COMMISSIONER PALMER:

-- they have to assert that they have done this?

DR. LASKOWSKI:

They have a report --

COMMISSIONER PALMER:

Yes.

DR. LASKOWSKI:

-- and we actually have some draft templates for them to use and guidance on how to do that.

COMMISSIONER PALMER:

So, we want to make sure this gets done?

DR. LASKOWSKI:

Yes. And there's also --

COMMISSIONER PALMER:

Absolutely.

DR. LASKOWSKI:

-- and this is -- was in 1.0 -- so that's a design process, but also at the end they should do a final testing of users for folks that have seen prior wording. It was called the summative usability test report and the common industry format for usability test reports, which NIST --

COMMISSIONER PALMER:

Yes.

DR. LASKOWSKI:

-- my group, developed years ago so --

COMMISSIONER PALMER:

So, I've taken a lot of time, so I'm going to -- I'm not going to --

DR. LASKOWSKI:

Yes.

COMMISSIONER PALMER:

-- I'm sorry to be focusing on you --

DR. LASKOWSKI:

So -- so we have a lot of guidance in that arena.

COMMISSIONER PALMER:

My last question, and it's for the panel -- I may come back after my fellow Commissioners get a chance, sorry. We talked -- there was this resolution and there's been talk forever that we must meet the accessibility and security, we must meet both. And sometimes that gets us bogged down, sometimes it doesn't. We talk a lot in these principles and guidelines about those two factors. So, how are we -- how do we make sure as Commissioners that we absolutely meet those two? One is embedded in Federal law and absolute -- and security is absolutely important because of what's going on in the environment we have around us. So, we need to make sure as Commissioners that it isn't just talk at a high level, that we absolutely have these requirements. How we -- how are we going to make sure that happens?

DR. LASKOWSKI:

Okay. I can speak to our NIST process, so given our public working groups and the technical experts we have, they're looking at not the requirements as well as --

COMMISSIONER PALMER:

They're looking at the requirements.

DR. LASKOWSKI:

-- not just the principles and guidelines. Yes, and so in fact we have draft requirements of our first draft, which -- which I think you received just before the Memphis meeting. And so getting all

that input from 500 experts I think goes a long way to ensuring that we address accessibility and security.

MR. MACIAS:

Yes, and from a principles and guidelines standpoint, it would be -- from my opinion, would be adopting the VVSG 2.0 in its current format because, as was stated, this resolution was passed by the Board of Advisors and passed by the Technical Guidelines Development Committee in drafting the VVSG 2.0 alongside the VVSG 2.0. And so the experts who felt that it was necessary that accessibility and security were developed within the VVSG 2.0 also supported the VVSG 2.0. So --

COMMISSIONER PALMER:

But you understand that requirements are also approved, and it would be your responsibility and the EAC's responsibility to make sure that those are absolutely met?

MR. MACIAS:

And that we are utilizing the same process in developing the requirements and test assertions, so, as Dr. Laskowski was just saying, that those same individuals are weighing in on the process and participating in the development of those requirements as well. And yes, that is something that is at the very forefront of everything that we are doing in the development of the requirements is making sure that they meet all of the accessibility and all of the security

needs. And I think that it has shown just in the number of principles and guidelines that refer to each of those two items and not independently, rather together.

COMMISSIONER PALMER:

Mr. Newby?

MR. NEWBY:

Well, I don't have my version of HAVA up here, so I'm going to have to rely on memory a bit of it, but the -- I would start with HAVA is a law, and so in the end, HAVA speaks to security but is very specific about making sure that all voters have the right and the ability to cast a vote independently and verify it independently. And so I think that some of the answer to your question is going to be a legal review, so I don't think we can bring anything to the Commissioners where we haven't had our General Counsel say it meets that requirement of HAVA, that fundamental basic thing of HAVA.

And I guess it would be my view that that is -- it'd be great if we can figure out how that's going to -- those two worlds are going to live. I would argue they have lived already with 1.0 and 1.1, and so, in the end, accessibility has to be the primary focus. I mean, security -- I'm not in any way diminishing that importance, but accessibility, it is what HAVA was all about. So, I think it really comes down to a legal review and how we present those, whether

it's just the VVSG or whether it's the VVSG and the requirements or whether we roll test assertions into requirements. It's got to be our legal review, our counsel, EAC, telling you for you to at least react to and determine if you agree that we have made these conclusions based on law. And then I think it's up to the Commissioners to vote on that based on what information we are giving you in that regard.

COMMISSIONER PALMER:

Just to follow up, Mr. Newby, do you think -- whose responsibility is it to make sure that HAVA is complied with when it comes to standards of voting equipment?

MR. NEWBY:

So, the easy answer would be everyone. I think that would be the easiest one. But I think, in the end -- and this is my reading of HAVA -- EAC is a -- there is an Election Assistance Commission. The Commission is made up of members appointed by the President, so I believe that the Commission or Commissioners in the end it's the ultimate responsibility.

COMMISSIONER PALMER:

Do you have a role in this, too?

MR. NEWBY:

Right, because I -- I believe that I am the -- I am the role of Executive Director, so I'm not -- as Executive Director, the Executive Director has to provide I guess guidance to the

Commissioners on how they would vote on certain things. I don't believe that the -- I don't believe the staff can take on that role unless it is clearly allowed by HAVA. That's just my opinion.

COMMISSIONER PALMER:

Maybe -- my memory of HAVA may be poor. Do you have to make a recommendation to us?

MR. NEWBY:

We have to recommend to you the -- I -- the Executive Director recommends to the Commissioners the VVSG.

COMMISSIONER PALMER:

Okay. All right. I'm sorry to filibuster. Go ahead.

CHAIRWOMAN MCCORMICK:

Commissioner Hicks?

COMMISSIONER HICKS:

Thank you. I just have a few quick questions.

Director Newby, with our -- this is our second hearing on these issues. In your reading of HAVA, how many hearings does the Commission have to have?

MR. NEWBY:

So, based on the -- what I read earlier with HAVA, I believe that one would be sufficient.

COMMISSIONER HICKS:

So, we've already doubled that --

MR. NEWBY:

Yes.

COMMISSIONER HICKS:

-- in moving forward with this. So -- which I think is a great thing, and I think that continuing to talk about it and give people the opportunity to voice their comments and opinions on this I think is good and will help shape the discussion and the principles and guidelines, along with the requirements, as we move forward.

Dr. Laskowski, one of the questions that I have goes on to the 500 experts in terms of their input. Is there any other industry -- and I'll give a background on what I'm getting at with this. Unfortunately, the Boeing Corporation had a poor design in one of their aircraft, which cost the lives of over 600 people. They've made modifications of that quickly, and that's now out for public comment, and that goes until April 30th allowing for any individual to basically give that public comment on the backend.

We allowed for folks to participate in this in a -- on the front end of drafting these principles and guidelines, and I think some of that went really well, but I worry that, as we move forward with whatever iteration we go down, whether or not I'm here or not or my fellow Commissioners are here or not or -- in terms of improving the process. Because it's my understanding that there are some folks who gave a lot of input into this who are very qualified to do so, but

then there were some folks who were just in the realm of, you know, no worse than an internet troll in terms of shutting down discussion, going towards intimidation of people, which I don't think is helpful or advances the process.

So, my -- I guess my, you know, comment or question is how can we move forward in a next iteration -- you know, I know that we are a little ways off from getting this one through -- of ensuring that discussion remains high but we allow for folks who are actually qualified to do this to be a part of it?

DR. LASKOWSKI:

Well, I think one thing that was at some point NIST stepped back and made clearer the focus and scope of the public working groups --

COMMISSIONER HICKS:

Um-hum.

DR. LASKOWSKI:

-- and I think a little of that got lost for people that are not familiar with a standards development process, which is what this is.

COMMISSIONER HICKS:

Um-hum.

DR. LASKOWSKI:

So, I think that's one way to ensure that you're getting good technical advice.

COMMISSIONER HICKS:

Yes. Acting Director Macias, you say that the -- since Memphis, we've gotten four additional comments moving towards the May 29th deadline. I didn't hear on how many of those were substantive and if there's any sort of breakout from the way that the other 19 comments had gone before that. Or basically the question is since -- did people view the hearing and decide that they were going to comment on the comments from Memphis? And then I'm assuming that after this hearing people are going to want to make more comments?

MR. MACIAS:

Yes, so that latter part of the question would be an assumption. I -- you know, I cannot say if that was the case. All of them came in on April 19th, so they came in on Friday --

COMMISSIONER HICKS:

Um-hum.

MR. MACIAS:

-- so my guess is it was probably from feedback from one of the public working groups rather than from the -- excuse me, from the public hearing. But yes, they were all four substantive. I will just paraphrase. I have three of them in front of me. I support the

VVSG, notably the guidelines that require the voters to understand all documentation on the voting system and all information presented on the ballot is commendable. I express support for these strengthened guideline standards for our elections as soon as possible. We need as much teeth to make sure States guarantee transparency, high-quality design and usability, auditability, and interoperability. And then strong support for the current VVSG 2.0 draft. Most important to me are Principles 1 and 2 for high-quality design and implementation.

And so each of them is directly in support of VVSG 2.0 generally but also calls out specific principles that they are in support of as well, so they are substantive.

COMMISSIONER HICKS:

Thank you. Because my basic understanding and my basic hope is that we gear towards those four groups that need to be interacting with that, one being voters overall and being able to use these machines, two being the election workers to be able to use these machines and put them up and run efficiently, three being the manufacturers so that they can build towards this, and four being just basically the election work -- the election officials overall so that they have confidence in those and that they're not running out to individual corporations and trying to buy something new every other year.

So, with those four groups I hope that we can draft these towards -- these principles and guidelines to a level that's we can get the requirements in there so that we are not coming back two years from now and looking at trying to change things up again. So, you know, it's more of a comment than a question, but I'm hoping that, you know -- that as we do these sorts of forums and meetings, that people give actual input to move forward with this because I think of it as one of those 500 people that were part of the public working groups, I don't think there were any individuals that want any piece of our election systems to be called into question, and therefore, the ultimate goal overall is to make sure that the confidence remains high in our elections process.

So, I commend those folks who are actually being a part of this and, you know -- you know, not feel great about those one or two individuals that decide that they want to try to shut this process down. But I commend NIST for, you know, stepping in and moving forward with it. And hopefully, we can continue to move this on so that they -- so that we can get machines developed and out to the American public as soon as possible.

With that --

CHAIRWOMAN MCCORMICK:

Other questions, Commissioners?

Vice Chair Hovland, do you have any more for this panel?

VICE CHAIR HOVLAND:

I'm good, thank you.

CHAIRWOMAN MCCORMICK:

Commissioner Palmer?

I just have one more question, and I guess I'm just asking for help in understanding the new structure. Suppose we vote on the principles and guidelines as VVSG 2.0 and we decouple the requirements from these principles and guidelines. And, from my understanding that once the initial process is done, then the Testing and Certification staff and NIST would be updating those requirements. At what point does -- do the Commissioners have a chance to weigh in on that process? Where would -- where do we participate? Do we participate in the public working groups? Is that where we're then relegated to?

MR. MACIAS:

Yes, so I'm going to go back to the two duties of HAVA or as set forth in HAVA that were mentioned earlier under Section 202. And so what we have laid out in front of us is the VVSG 2.0. And as for that second item, which is the testing decertification, recertification process, HAVA says that the EAC will provide for that. So, ultimately, where do you guys play the role in that is you guys get to set the policies. So, if it is determined that you guys want to vote on all of the certification requirements and all of the

test assertions that the voting system test labs would test you, then that's a policy that you guys have the ability to be able to adopt.

We have a draft set of policies for the testing and certification process, but they're just that, they're just draft at this point. And so from my standpoint the very first thing would be adopting the Voluntary Voting System Guidelines and fulfill that first duty of the EAC.

And the second step would be to adopt a policy that would say that the -- that second duty, the testing certification, decertification, recertification process, should directly align to the VVSG 2.0 because there's no intent -- you know, there's no rationale for having a VVSG if the requirements and test assertions are not going to align.

And then that third step would be formulating and drafting those testing and certification policies that you guys feel comfortable with. And so if that means voting on every single requirement and voting on every single test assertion, then that could be within the policies that you guys set forth. As drafted, it would have you guys voting on this initial set of requirements that would be coming forth as 300 pages or so that we have in draft right now, and then that it would be the ability to update those requirements through a process that was similar to what Commissioner Hicks was describing, which is giving value to the

TGDC, the Board of Advisors, and the Standards Board in making up those four entities or representatives of those four entities to provide feedback and then carrying those forward. But could always be changed.

CHAIRWOMAN MCCORMICK:

So, where would -- if we followed the process that you're talking about, where would the Commissioners provide feedback? Just in setting a policy?

MR. MACIAS:

In setting the initial policy for the requirements and test assertions.

CHAIRWOMAN MCCORMICK:

So -- but if we're decoupling them and we're leaving it up to the staff to update them, where do we come in?

MR. MACIAS:

Again, in the testing and certification policies, so providing for the testing certification and decertification process. And so you guys could weigh in on that policy at any point in time. You guys could update the policy, just as you can with any other policy that is put forth in front of you similar to EAVS or Clearinghouse functions, or any of the other six functions that are laid out in Section 202.

CHAIRWOMAN MCCORMICK:

Could we set a policy before we passed the principles and guidelines document?

MR. MACIAS:

Yes.

CHAIRWOMAN MCCORMICK:

Um-hum.

MR. MACIAS:

Yes. I guess if they --

CHAIRWOMAN MCCORMICK:

So, we could flip that --

MR. MACIAS:

Yes.

CHAIRWOMAN MCCORMICK:

-- flip that suggestion? Um-hum.

MR. MACIAS:

Yes. Yes, so, I mean --

CHAIRWOMAN MCCORMICK:

That the requirements need to be part of the Voluntary Voting Systems Guidelines?

MR. MACIAS:

Yes, I mean, I would -- that could be a policy that they were a part of the VVSG. I think that, again, from my reading of 202 that the -- it is clear that they are two separate things, just as EAVS is

something different, just as Clearinghouse is something different. It is one of six requirements. And then the certification -- because the other part of HAVA in Section 301 is the voting system standards, so, you know, if we back up and look at voting systems in general, the way that it was transitioned from the FEC to the EAC, FEC had a set of voting system standards.

The Congress decided that they did not -- from my reading of it, they did not want to put forth the opportunity for an agency to set standards on a voting system, and that's why Section 301 is voting system standards and under Section 301(a) is what are called requirements for a voting system. And then in alignment with that under Section 231 is the Voluntary Voting System Guidelines. And guidelines are best practices that would fulfill those standards. And then there is a decoupling inside of HAVA, which is a second process, which is a testing certification, decertification process because the requirements are nothing more than a set of requirements for a voting system manufacturer to get its equipment certified.

CHAIRWOMAN MCCORMICK:

Do you have a legal background, Mr. Macias?

MR. MACIAS:

I do not.

CHAIRWOMAN MCCORMICK:

Okay. Thank you.

VICE CHAIR HOVLAND:

I have a follow-up question on that. Since we have arrived at a point talking about sort of the requirements and the structure, I guess under the existing structure when there are requests for interpretation or RFIs, would you say that's analogous to a clarification on what would be a requirement in the future?

MR. MACIAS:

Yes, so, currently, there's a policy. So, there's a policy that staff -- testing and certification staff would make interpretations on the current VVSG, and this was because we could not update the VVSG without a quorum, and then that has carried forward. And so, yes, it is the rewriting or the interpreting of a requirement but in certain terms it actually overwrites -- there has been interpretations that then overwrite an interpretation, which then changes an interpretation, so it would be analogous in updating and changing requirements.

MR. NEWBY:

So, just to clarify that, though, I think that the policy manuals that have expired for 1.1 -- and correct me if I'm wrong, but I believe that the RFI speaks to requests for an existing requirement, so it does not allow for a new requirement to be created, so it is not analogous to the RFI process.

VICE CHAIR HOVLAND:

Well, I guess if you're asking -- the way I understood what we were talking about a second ago was modifying existing requirements that had already been adopted versus adopting new requirements, which I would think would be a separate process. And then to -- for the -- for the benefit of those that weren't in Memphis or didn't watch the webcast, there was some conversation about external technical standards and some of the minor things that would need to be updated, but -- so where you're talking about the policies that we would adopt in advance of the requirement, that could be where you would potentially put something in that would allow for staff to make, hypothetically, updates to, for example, external technical standards moving from, you know -- I'll hold off from using an example, but just envision some type of outside technical standard that moves from 8.1 to 8.2, for example, but then allowing for possibly an appeal process or some situation where if there was controversy around it, we could potentially then weigh in?

MR. MACIAS:

Yes, and that's built into the current manuals as well for a determination on certification and decertification as there is an appeals process. And there's one other opportunity, and I can't recall what that is, but, you know, the way that it's laid out right now for the certification of a voting system is that the Project Manager

sets a recommendation, the Program Director will sign off on test plans, test reports, and then the Executive Director signs off on the certification or decertification so that if there was a reason for a manufacturer to bring that forth or to appeal the process, then they could bring that forth to the Commissioners so it wasn't the Commissioners overwriting their original decision.

VICE CHAIR HOVLAND:

Thank you.

MR. MACIAS:

Um-hum.

CHAIRWOMAN MCCORMICK:

So, Mr. Macias, just following up on my question, does that mean that we, the Commission, the EAC, has approached 1.0 and 1.1 incorrectly given your reading of HAVA?

MR. MACIAS:

So, again, I think the 1.0 in terms of how quickly it moved forward I -- it is written in a set of voting system standards. It is very clearly in alignment with the original FEC voting system standards. And under Section I think it was 221, that's actually written out that the FEC voting system standards will be the initial set until something else is brought forth. And, yes, some would say that the 1.0 and 1.1 in moving forward and how quickly that they were brought forward, they include things that brought together

duties one and duties two that probably should not have from the get-go.

CHAIRWOMAN MCCORMICK:

So, they were implemented incorrectly under your reading of HAVA?

MR. MACIAS:

That -- yes. I mean, that is a potential. They were brought together when -- when they should have been separated out.

CHAIRWOMAN MCCORMICK:

Mr. Palmer, did you want to --

COMMISSIONER PALMER:

I just had a -- yes. So, you mentioned the work of the VVSG on -- the substantive work of the principles and guidelines and some of the work that's going on with the requirements. Regarding the structure, this is a recommendation of the advisory boards, is that correct?

MR. MACIAS:

Yes, it was --

COMMISSIONER PALMER:

Was it -- yes?

MR. MACIAS:

Yes, it is a recommendation. They adopted resolutions to move forward with it.

COMMISSIONER PALMER:

So, it's a recommendation?

MR. MACIAS:

Yes.

COMMISSIONER PALMER:

Thank you.

CHAIRWOMAN MCCORMICK:

Any other questions, Commissioners?

VICE CHAIR HOVLAND:

Was that recommendation unanimous?

MR. MACIAS:

By the TGDC it was and by the Standards Board I believe it was. The Board of Advisors do not put forth a resolution for the structure independently. They did as the charter as a whole.

VICE CHAIR HOVLAND:

Thank you.

CHAIRWOMAN MCCORMICK:

Any other questions, Commissioners?

Thank you, Panel I. I appreciate your testimony today.

And I'll call up Panel II, please. Just give us a second until Commissioner Hicks returns.

So, I'm going to introduce Panel II. We have to my left and to the audience's right Philip Stark, who's a member of the Board of

Advisors; and then we have Ricky Hatch, Auditor from Weber County, Utah. Next to him, Neal Kelley, Chair of the VVSG Subcommittee on the Board of Advisors, and Jim Dickson, member of our Board of Advisors.

So, thank you all for coming and providing testimony. We'll start with you, Mr. Stark.

DR. STARK:

Thank you. Thank you for --

COMMISSIONER HICKS:

Hit your mic.

DR. STARK:

Thank you very much. Thank you for having me. I'm limiting my comments to the principles, not the guidelines. Overall, I think the principles are terrific, and I strongly endorse them. I also support the idea of separating the principles from the detailed technical requirements. However, the devil is in the details, and in this case the detailed requirements that are going to flow from the principles and guidelines. As far as I know, there's as yet no process to ensure that the detailed requirements in the body of the VVSG, and you were speaking of that partly, Commissioner McCormick.

My primary concerns about the principles regard language that's either -- that's ambiguous and wording that suggests that

voting systems will not use hand-marked paper ballots, which are the most secure, trustworthy, and resilient mode of voting currently available.

Another high-level recommendation is that the principles include a precise glossary to define important terms like ballot, cast, cast vote record, and audit.

Now, I'd like to make some comments on specific principles. Principle 4 on interoperability I think is extremely important. It's critical for establishing a truly competitive market for voting systems and to facilitate audits of election results. Software to support efficient audits is going to need to parse exported results and exported cast vote records, for instance. Interoperability I think is also critical to be able to move forward to a modular certification decision so that eventually components rather than monolithic systems can be certified. It will also make it easier to upgrade systems and use new developments.

5.1 talks about consistent experience of voters throughout all modes of voting. That could be read to imply that all voters should use exactly the same technology to mark and cast voters. That could in turn reduce usability for some groups of voters. I think each voter should be provided a means of marking, verifying, and casting a ballot that's usable by that voter.

5.2 talks about voters receiving equivalent information and options on all modes of voting. Again, a logical implication of that is that the system should provide voters with disabilities a means to independently verify that what is printed on the paper record matches their selections, and it would be good to be able to spell that out explicitly.

6.2 talks about marking, verifying, and casting ballots or other associated cast vote record without assistance of others. This is an example where the language I think needs to be improved. Voters don't cast or mark cast vote records. Voters can see, touch, or verify cast vote records. Voting equipment creates a cast vote record from voter input. Cast vote records are the systems internal electronic representation of the voters selections. There's no guarantee that the cast vote record matches the voter's input, what the voter saw on the screen, what the voter heard over an audio assistive device, or what was printed on the ballot. Indeed, one way of auditing involves checking whether the cast vote records accurately reflect what's printed on the ballot. I think language needs to be improved there.

Principle 7, the high-level possible talks about marked, verified, and cast as intended. Again, I think this should include a provision to ensure that voters with disabilities are provided a means to independently verify that what's printed on the ballot

agrees with their selections. On-screen or audio verification before the paper record has been printed is not sufficient because the device could actually print something other than what it is describing as a result of bugs, misconfiguration, or hacking. So, again, I think that there's a lack of precision. Vote selections are not cast. Ballots are cast.

7.1 says the default voting system settings for displaying the ballot work for the widest range of voters, and voters can adjust settings and preferences to meet their needs. This implies that all voters will use an electronic interface to vote. I suggest revising the wording to include requirements for the usability of hand-marked paper ballots.

7.2 says that election workers can use all the controls accurately and have direct control of all ballot changes. This implies that ballots rather than ballot presentation formats are controlled by the voter, and that's just not correct. The voter should have control over some aspects of the format of the presentation of information for the purpose of making selections. Another example where the draft language is not consistent, the ballot is a piece of paper that records the voter's selections, not a screen that presents options to the voter.

8.3, the voting system is measured with a wide range of represented voters, including those with and without disabilities for

effectiveness, efficiency, and satisfaction. I think words like effectiveness and efficiency need workable definitions here in the glossary. How would one trade off between, say, speed and accuracy of marking a ballot? I think measuring things is great if those things are well-defined, but what action does this principle lead to? How do these measurements affect whether voting systems can be certified? Systems need to be tested for accuracy and capturing voter intent and ease-of-use both recording votes and for verifying selections on the paper ballot for representative voters, including voters with and without disabilities. Satisfaction is an important goal, but accuracy and ease-of-use are essential. Just like in a doctor, bedside manner is lovely to have, but first and foremost you want the doctor to be competent.

8.4 talks about the system being evaluated for usability by election workers. That needs to include usability not only for running the election but also for auditing election outcomes.

9.4 talks about the system supporting sufficient audits. That's rather vague. What constitutes an audit? What is to be audited? I would like to have systems supports efficient audits of the integrity of the paper trail and of the accuracy in the tabulation of the reported results -- in the reported results. We need audits that can detect whether the evidence trail has been compromised and that can correct wrong reported outcomes, for instance, so-

called compliance audits of the evidence trail combined with risk-limiting audits of the tabulation.

Just in case you're not familiar with the term, a risk-limiting audit is a procedure that ensures that if tabulation errors caused the wrong candidate or position to appear to win, there's a long -- large chance that the procedure will correct the outcome before it's certified. It involves manual inspection of a random sample of paper ballots. In contrast, things like inspecting transaction logs are not enough, nor are logic and accuracy testing or other methods that are used in some States.

Ballot secrecy has come up already. Ballot records are -- ballots are public records of a sort. Ballots need to be anonymous, not secret. Votes need to be anonymous, not secret rather. The contents of at least some ballots will be seen by election officials and auditors, but there should ideally be no way to tell who cast which ballot. It's another place where I think the language could use tightening.

I think that, together, Principles 13 and 14.2 imply that voting systems shall not have wireless connections such as Bluetooth, Wi-Fi, or cellular communication ports, but is wireless interface to be considered a physical port? There's no definition of what a port is in the principles. Will the requirements reflect that? Should be

requirements just simply say that you shouldn't have radios in voting systems?

Finally, 15.4 says a voting system with networking capabilities employs appropriate well-vetted defenses against network-based attacks commensurate with current best practice. I don't think that any system for capturing or tableting votes should ever be connected to the internet, nor to a private network that's connected to the internet, nor to any other public communications infrastructure, and it would be nice if the VVSG said so.

Thank you very much.

CHAIRWOMAN MCCORMICK:

Thank you, Mr. Stark.

Mr. Hatch?

MR. HATCH:

Chair McCormick, Vice Chair Hovland, and Commissioners Hicks and Palmer, thank you very much for your service, and welcome to Utah.

MALE SPEAKER:

Thank you.

MR. HATCH:

In the winter we here have the greatest snow on Earth, and in the summer, we have the greatest show on Earth with our Red Rock Canyons, hundreds of mountain peaks, deserts, arches,

lakes, rivers, and endless heights complemented by all the big-city attractions and even a few roller coasters thrown in for Commissioner Hicks' enjoyment.

Now, in two weeks up in my neck of the woods we'll be celebrating the 150th anniversary of the driving of the golden spike, which joined the Central and Union Pacific Railroads, to form our country's first transcontinental railroad.

Now, I love Utah because it's convenient and it's comfortable. I can be on the ski slopes within an hour of landing at the Salt Lake International Airport, a two-hour hike from my front porch gets me to Malan's Peak 7,000 feet above sea level where I can see three States at the same time. Utah is comfortable because I trust my neighbors, my coworkers, and the community, and I love Utah's iconic comfort food, funeral potatoes, cheesy, creamy, and with some good crunch on top.

[Laughter]

MR. HATCH:

So, the VVSGs are kind of -- to be a little corny, they're kind of like Utah. They're convenient and they provide comfort. Now, while these adjectives make it sound like the VVSGs are just nice optional things to have, they are quite the opposite. So, let me explain. They're convenient because, since the EAC has researched and established these standards, State and local

election officials can focus on other aspects of voting systems when evaluating our purchasing options. They're convenient for vendors because they establish a minimum but rigorous set of standards that the vendors had better meet if they want to be competitive. They're convenient for voter advocacy groups because they know what these standards are and which systems are and are not meeting those standards. And they're convenient for voters because these standards include functionality, ease-of-use, and accessibility. Convenience is good.

Now, let's talk about comfort and not about funeral potatoes but rather an elections kind of comfort. And in the elections world, comfort to me translates as trust. Utah has 29 counties, and not counting the two largest counties, the average number of voters in Utah counties is 21,000. Now, these counties almost always have two or fewer election officials or officials working in the office, and they also usually do additional things like marriage licenses, passports, and recordkeeping. And this small average size -- county size in Utah is still larger than two-thirds of the 9,000 or so voting jurisdictions across the country. So, only the very largest jurisdictions have the time and technical capacity to research whether the guts of a voting system functions properly and securely. The remaining 97 percent of us have to rely on the EAC

to establish well-thought-out standards so that we know that the systems meet the EAC's strict criteria for certification.

For us to benefit from convenience and comfort, we also ourselves have some responsibilities. Election officials need to keep the voting system that we purchase exactly the same as the one that was certified. Now, we do this by protecting it physically, cyberlogically, and through change management controls. And we then test the accuracy by conducting transparent public pre- and postelection audits. Voter advocacy groups need to participate in this process now. They should question, as they are, the VVSG process rigorously enough that they can trust it. And if they don't trust it, they should recommend to change it.

Now, of course, we're all on the same team, and in the area of standard-setting, the EAC is a key player. Here's what we want from you. We want your standards-setting process and testing to be so thorough that even if a bad actor were to, say, successfully plant a programmer inside a vendor's programming department, that the certification process would ferret out any malicious code. We also want to look at our biggest skeptics in the eye and be able to say to them this EAC-certified system has been so -- tested so thoroughly that I have full confidence that it does exactly what I wanted to do and without error. Basically, we want a good housekeeping seal on steroids.

We'd like the principles and guidelines to be solid and broad enough that they function as the framework established by HAVA, that the more detailed requirements and test assertions can be more nimbly adapted to address emergency -- emerging technologies and threats whether or not the EAC has a quorum. We want to -- we want a way to verify before every election that the election system that we are using is the exact same system that was certified by the EAC. And of course we want all of this done quickly, transparently, and without raising taxes.

[Laughter]

MR. HATCH:

Those are our simple and basic requests. Welcome again to convenient, comfortable Utah, and thank you for the tremendous value you bring to the elections community.

CHAIRWOMAN MCCORMICK:

You didn't bring any funeral potatoes with you?

[Laughter]

MR. HATCH:

No, sorry, I ate them all.

[Laughter]

CHAIRWOMAN MCCORMICK:

Oh, thank you, Mr. Hatch.

Mr. Kelley.

MR. KELLEY:

Chairwoman McCormick, Vice Chair Hovland, Commissioner Hicks, Commissioner Palmer, and members of the Election Assistance Commission, thank you for the opportunity to testify about the Voluntary Voting System Guidelines 2.0. I'm grateful for your leadership, as well as former Commissioner Matt Masterson, for your vision and dedication to the VVSG process, and to the election industry as a whole.

My name is Neal Kelley. I'm the Registrar of Voters for Orange County, California, the fifth-largest voting jurisdiction in the country. I've been in my role for 15 years and have served as the President of our statewide and national associations and as the past Chair at the EAC Board of Advisors, current Chair of the VVSG Subcommittee, a member of the EAC Standards Board, and a member of the Technical Guidelines Development Committee.

I want to focus my comments today on two areas, first, my thoughts on the need for new standards; and second, my perspective and thoughts on the process to date and the VVSG process.

As it relates to new standards, it's not lost on anyone in this room, I'm sure, that a paradigm shift occurred in election security in 2016 when widely reported attempts were made to disrupt elections in the United States. In addition, there's been a great deal of

attention on issues related to ballot integrity, secure voting systems, and vulnerabilities as they exist in today's election landscape.

As a result, many jurisdictions, Orange County included, have been aggressively pursuing security measures to protect the integrity of our elections. I have advocated that a ring of security is critical to safeguard the millions of ballots cast in my jurisdiction, and I'm sure the same jurisdictions across the country. We have enhanced and increased physical security; we have established partnerships with Federal and local agencies and information-sharing centers; we have put in place administrative, technical, and physical controls, but despite all of this, our hands remain relatively tied with our system in Orange County, which was designed under VVSG 1.0. Having the flexibility in the system to adapt to the ever-changing threat landscape is more important than ever. This is not the only example but a clear example of why new standards are needed.

I also mentioned ballot integrity. I believe the American people deserve to vote on systems that provide an open and transparent look at precisely how a vote was counted with verifiable outcomes. Indeed, one of the objectives of the VVSG 2.0 is to facilitate an open and transparent process that allows voters and election jurisdictions to assess the performance and capability of election systems. I really believe and am afraid that some people

might underestimate the importance of meaningful audits in elections. They are as important in my opinion as the proper recording of the ballot in the first place. They not only provide confidence that the outcome was correct and was achieved properly, but they can go miles in building and maintaining trust with the voting public. These are just two examples in my opinion of the need for new standards to ensure systems are being developed with broad flexibility to adequately secure systems and with the ability to properly assess election outcomes.

So, on the matter of the process to date and my thoughts on that, I joined the Technical Guidelines Development Committee in the summer of 2017 as the previous heavy lifting and work of the committee was about to culminate in a vote on advancing the principles and guidelines within VVSG 2.0 to the next phase. They did a lot of the heavy work before I got there.

Under the leadership of the EAC Commissioners and the team at NIST, what was really helpful was recognizing early on what didn't work well in the past and not repeating these same mistakes, for instance, not putting forward such comprehensive documents like the past versions of the VVSG in such truncated timelines and acknowledging that that didn't make sense. In my opinion, there has been a thoughtful and methodical approach as it relates to the process of VVSG 2.0 to date.

I have been very impressed with the level of inclusion of a broad cross-section of subject matter experts that developed the high-level principles and guidelines. It is clear these were created using critical inputs from experts in security, election administration, accessibility, and more.

In addition, one cannot argue with the transparency that's been afforded to this process, and I think that would be an understatement if I said that that was not the case. The public working groups have been -- have gone a step further and allowed election officials, the public, academics, accessibility experts, and more to have a significant voice in this process. In the early stages of the development of the VVSG 2.0 principles and guidelines, you have listened to the industry as we sought a high-level guiding document that focused on interoperability, human factors, accessibility, and security.

While I applaud the process by which VVSG 2.0 has been shaped, I remain a bit concerned that the timing of the details necessary to begin development will continue to expand a bit. I recognize that the process is important, and it's critical to get every aspect of the requirements and test assertions correct, but it's clear the principles and guidelines simply do not provide the necessary level of detail for developers to begin the lengthy process of including all of the requirements into a newly developed system. I

have an RFP that will be closing on April 30th, and it's a bit disheartening to think that new systems designed to 2.0 probably will not hit the street until 2023, maybe a little earlier, but probably 2023.

I echo the comments of some of my colleagues in recent meetings over the natural concern about the EAC losing their quorum again in the future and what that could mean for the ongoing management of the VVSG. I feel strongly that there should be mechanisms in place to ensure that the future changes or updates to the VVSG are not stymied at the staff level due to a lack of a quorum of Commissioners.

So, please forgive me for the following analogy. And, Commissioner Hicks, you brought up the discussion of Boeing, and I appreciate that because it kind of was a good tee-off for me. I'm a private pilot, and I like to use this analogy, which I think resonates with some, related to the VVSG. I know it's not lost on most people that commercial aircraft are subject to detailed levels of certification, like you talked about. For instance, airlines that fly to Hawaii must ensure that extended twin operations, or ETOP certification for aircraft that fly over water in which a portion of the flight is conducted more than 60 minutes from an adequate airport are implemented correctly.

The high-level principle in that case is that the plane must be able to fly on one engine at altitude until it reaches a suitable airport. How this is accomplished is spelled out in the details of the requirements for how that aircraft responds to reduced thrust, very specific engineering requirements. In this case, what is the desired outcome for that technology? The high-level principle is not specifying the manner by which that outcome would be generated. That is in and of itself at a high level allows for innovation and flexibility and updated designs while leaving the high-level principles and guidelines of safety well intact.

Much like my example, I feel that the VVSG principles and guidelines truly is a standalone document, as required by HAVA, and that the requirements and test assertions are documents that are established by policy. Providing flexibility in the details of the actual requirements while maintaining the bedrock of the critical guiding principles stays true to the desire of embedding flexibility into the process and not stalling innovation and forward progress.

I believe that there has been a recognition that the Federal certification program must be more responsive to change given the pace of technology and the expanding threat environment. From start to finish it's very clear to me -- and I really believe this from all of you as Commissioners -- that there is a desire to build more flexibility into the VVSG structure, in particular, by carving two paths

forward between high-level principles and guidelines and the more detailed functional requirements. As a local election official, I appreciate this direction and hope that the requirements are able to adapt with some level of nimbleness to meet the new needs of systems in the future.

It's an honor to serve in this industry, and I am proud of the amazing work of my colleagues, the public, the EAC, NIST, and the tireless work of everyone involved with this new chapter of the VVSG, and I thank you for your time.

CHAIRWOMAN MCCORMICK:

Thank you, Mr. Kelley.

Mr. Dickson, you're on.

MR. DICKSON:

First, I -- a little bit of me feels like it's Christmas seeing the four of you up there.

[Laughter]

MR. DICKSON:

This is long, long, long overdue. Also, it's particularly gratifying to see that you're all on top of your game and you know your stuff. The questioning earlier was really A-plus.

So -- oops, sorry, I lost my place. On the -- on these high-level principles and guidelines, they are fine. The question for the disability community is what is going to be in the requirements?

And there -- the devil is always in the detail, and there's a bad devil in the current drafted requirements, and there is a serious, serious omission in the current drafted requirements. I'll deal first with the omission.

The -- HAVA, if I am remembering the language correctly, Commissioner Palmer, the language regarding Americans with disabilities, all 35 million more of us who are of voting age, is that we get to vote privately and independently in the same time and manner as other voters. The omission is that you are not dealing with mail-in voting. Mail-in voting has grown exponentially in the past couple of years. There are all kinds of bills currently in State legislatures to expand it. Here in Utah is a State which is looking towards increasing the use of mail-in voting. And the current VVSG does not address that. I don't know how you can offer privacy and independence in the same time and manner as other voters and not address mail-in.

As for the problem in the guidelines, it is the phrase software independence. The current VVSG -- the TGDC recommended that phrase in 2007. The disability community went ballistic. I'll explain why in a minute. The Commissioners at the time removed it from the VVSG, and I would hope and trust that you would do the same with the current guidelines.

I want to end my remarks by addressing this whole notion of the hand-marked paper ballot. It really, really, really bothers me. HAVA is now 19 years old. I've heard since the passage of HAVA we can make paper accessible, we're going to make it, it's really close. Well, it isn't accessible now, and it isn't really close. It reminds me of what I was told by doctors at Harvard and the Mass General 45 years ago. They said you're going blind, but don't worry, in a few years, you'll be able to see. Well, it's 45 years; I still don't see. The notion that paper is going to be made accessible is laughed at in the disability community. If it's been doable, where are the attempts?

As an American, I really value this country's elections. It is what makes us great. But if we look at what has happened in our elections with paper, the cases where election manipulation has been proven, paper is easy to manipulate. Every major election cycle in the past few -- in the 35 years I've been working in elections, there is a minority community where paper ballots run out, suppressing the vote. People with pen and paper put extraneous marks on paper, and that leads to very, very serious, complex, and ugly, ugly challenges in close elections. Lawyers come out of the woodwork saying this person didn't mean that, we got to throw that person's ballot out. That tedious process undermines the faith that Americans have in our voting system.

Paper ballots remind me of the children's fairytale *The Emperor's New Clothes*. The pluses in your high-level standards will allow for innovation, it will allow for accessibility.

And I want to end by stating that accessibility is the law, not just HAVA. In the past couple of years there have been five lawsuits regarding -- on electronic marking of mail-in ballots. And in five different cases using the ADA and 504 of the Rehab AC t, the courts have found that we have a right to vote privately and independently through mail-in. I know that this is a difficult process. I'm ready to work hard with you and the staff, and I want to end by urging the Congress to beef up the certification department of the EAC because once these standards are in place, there's going to be a flood of new equipment, and right now, the EAC does not have the personnel to expeditiously process the -- that new equipment. Thank you very much.

CHAIRWOMAN MCCORMICK:

Thank you, Mr. Dickson. I appreciate all of the panelists' testimony.

Let's start with Vice Chair Hovland for your questions, please.

VICE CHAIR HOVLAND:

That was a lot. Thank you all.

Mr. Kelley, I want to start with you. You had mentioned that you were a little late to the TGDC party, but glad you're on there and wondered if you could -- whether it was when you got there or sort of what was passed along to you, can you discuss at all or summarize the TGDC's deliberations around the scope and structure of VVSG 2.0?

MR. KELLEY:

Commissioner, you might not like this answer, but, unfortunately, the day that I showed up at the TGDC was the vote that took place, so I don't have that insight other than, you know, obviously what my colleagues related to me and what I was able to gather from reading documents. So, I don't have a lot of insight to provide you.

VICE CHAIR HOVLAND:

Fair enough. Well, I think this you definitely will. So, you had mentioned in your testimony that the current system you're using is tested to 1.0 and that there have been -- that you've had challenges with the lack of innovation. Can you talk more about that and how that's impacted your office and if you believe that the proposed VVSG 2.0 will move in a direction that is more responsive?

MR. KELLEY:

Yes, absolutely. So, there are a number of components and areas within the system that are problematic when it comes to shoring up security or just dealing with the general maintenance of the system. For instance, the servo process, which is a process by which you are clearing devices from previous elections that have occurred on the system, is relying currently on a much older version of Windows that is no longer supported by Microsoft. There's nothing that I can do to upgrade that portion of that system. So -- and I've -- I'm a bit of a broken record in this regard, but I have said publicly that I have sought out systems and laptops from eBay and other sources to be able to maintain that system. It's silly. It's absurd.

And looking forward to VVSG 2.0 and the ability to have certification on individual components within that and the adaptability of those individual components as opposed to the system as an umbrella provides much more flexibility in my opinion for us to be able to manage those types of issues.

As it relates to security, being able to patch a system under 1.0 is nearly impossible because there's not a lot that you can do. To the credit of California, we've been able to update a portion of our tally system through the administrative certification process, but that's few and far between in terms of what we can do on the system as a whole.

So, VVSG 2.0 really just goes miles ahead of where we are currently on that existing system and the flexibility it provides.

VICE CHAIR HOVLAND:

Thank you. And along those lines and in my opening commentary I mentioned that, you know, because of the voluntary nature of the Voluntary Voting System Guidelines, you know, they are -- they're really only effective if people in States adopt these. So, for both Mr. Hatch and Mr. Kelley, from what you've seen of this process so far, do you think we're moving toward a -- or toward a set of standards that are more likely to be adopted by States or utilized by States?

MR. KELLEY:

Just briefly, I'll add Ricky, with respect to California, I really truly believe that's the case. California has a much more restrictive, I think, certification process than some other States that is on top of what the EAC requirements are. There's been some debate whether that's good or bad, but I will tell you that the flexibility provided in these principles and guidelines and where we're headed with the VVSG 2.0 is very attractive, I think, to the State and to local election officials. And I can't speak for the manufacturers, but just in some of the discussions that I've had in sidebar conversations, I believe that many of them also view it that way. They're concerned about where the requirements will end up

being, but, yes, I believe with respect to California it's going to be a very positive thing.

MR. HATCH:

I agree with Mr. Kelley. I think the structure, the way they're written, and the ability for them to -- for the details perhaps to be a little bit more flexible in changing, you know, who knows what, threats and capabilities will have 6, 5, 10 years from now with the structure in which they're written, I think that will make the State of Utah and other States more comfortable to say, yes, let's attach ourselves to this standard because we think that they'll -- it'll take care of us in the changing environment.

VICE CHAIR HOVLAND:

Thank you.

Mr. Dickson, I know that you said, you know, the high-level principles and guidelines were good, and I know in all of our conversations, my colleagues and I have been dedicated to ensuring privacy and accessibility in the vote. One of the things that I wanted to ask you about was it's been flagged that Principle 4, interoperability, may create the ability for some entities to focus on potentially components that would be added into systems. Could you envision that leading to I guess better equipment or more accessible equipment and more innovation in that space?

MR. DICKSON:

Commissioner Hovland, yes. I had intended to make the point that one of the real pluses here is getting rid -- as Mr. Kelley said, getting rid of the umbrella and certifying the individual components, and I think that's particularly important around issues of accessibility.

VICE CHAIR HOVLAND:

Thank you. Somebody else can go.

CHAIRWOMAN MCCORMICK:

Okay. Commissioner Palmer, do you have questions?

COMMISSIONER PALMER:

I guess let's talk a little bit about the component testing. You know, I think -- and you guys -- you all can help me out here. There are some issues on whether or not that's legal within the framework of HAVA. Let's assume it is. Give me that justification and how that would work with the EAC certification process, again, assuming that it's legal and something we can do within the existing framework of HAVA.

MR. HATCH:

I'm not sure -- this will probably be a little bit jumbled. I think whenever you have --

COMMISSIONER PALMER:

It's a tough subject.

MR. HATCH:

I understand. Whenever you have systems or components that have to talk to each other, that handshake is crucial. That's a crucial risk point.

COMMISSIONER PALMER:

Um-hum.

MR. HATCH:

And perhaps some of -- maybe we update a principle or some guidelines, but certainly at a lower level we establish controls surrounding when a component changes, maybe a process surrounding that handoff of data that would be a thorough -- so you'd be able to audit it after the fact but it also contains some inherent controls, and you could -- it could be something as simple as hash control totals or something as the data is provided to ensure that that interoperability --

COMMISSIONER PALMER:

Yes.

MR. HATCH:

-- is sound and that the process can be trusted.

COMMISSIONER PALMER:

So, just a follow-up, just one question to put to you, and then others can answer. You know, it seems to me to be an innovation versus risk. You know the environment we're in today and the

responsibility we have to make sure that that stamp of approval from the EAC is that we are secure.

MR. HATCH:

Election officials, I've said this before, we're control freaks, and we're -- we want to make sure that everything is there. If I had to choose between those, I'd be in a more -- I'd choose a more safe process, a more controlled process than a nimble, innovative area. We have to have absolute certainty that the systems are functioning the way they are, and if that means it's a little slower to get a more agile or innovative and modern system, I'll stick with the trust.

COMMISSIONER PALMER:

Neal?

MR. KELLEY:

So, Commissioner, I appreciate the question, and I want to give you a very specific example. So, in our current system right now, our ballot design process is built into the overall certification of the system. In 2018 California had one of the longest ballots for Senate candidates. We had upwards of 35-plus U.S. Senate candidates. And the template for that piece of the design we were stuck with, and it was very difficult to expand beyond that and to build templates that would work and adjust to the ballot design appropriately. If you have these individual components that are

certified if it's illegal under HAVA, then you have much more flexibility in adjusting those templates or adjusting down the road what you can do with that certification piece.

The security piece and the security aspect of that is very important. I wouldn't want to give up that ability, just like what Ricky said, to have a secure system. If I had to give up the flexibility of a template that is a little bit more easy to design a ballot, I'll give it up in a second over the security piece.

So -- but I think we really do need that flexibility. There are so many examples throughout the industry of where that would be very helpful for us down in the weeds to be able to conduct elections and administer them properly.

COMMISSIONER PALMER:

Mr. Stark?

DR. STARK:

May I point -- it's not -- I agree that there's sometimes a tension between security and innovation. It's not clear to me that this is necessarily an example of that. For instance, a lot of the legacy systems are tied to things like obviously operating systems that have serious security flaws and we have an inability to patch a flaw because you've certified a monolithic system.

I think it's very important to have data exchange formats, exposed APIs for software. If we're going to go down that road

eventually in this version, VVSG doesn't contemplate that. There needs to be unit testing, integration testing, regression testing. There's all kinds of things to do to ensure that substituting some module for a different module that exposes the same data formats, APIs, et cetera, it still functions equivalently. So, there's a lot of work that will need to be done to get us to that point, but this is just starting to set up the road to at least we're talking about data exchange formats and things like that.

COMMISSIONER PALMER:

Mr. Dickson?

MR. DICKSON:

I was a very daily involved in the drafting of HAVA, and I don't ever recall conversations that said you couldn't approach these standards on a modular basis, and in fact I recall many conversations both formally in testimony and informally during the drafting process that I think always assumed that a big umbrella system was not the way to go in a country that has as diverse and complex an election administration system as we do.

COMMISSIONER PALMER:

Thank you. I have a few more questions. Neal, you've talked a little bit about how ballot integrity and transparency and openness, these are all principles that are very important to us. I mean, you also mentioned we're in a new paradigm of security.

Would you agree that it's our -- it's your responsibility, your State certification program, the EAC -- it's our responsibility to make sure that where the rubber meets the road that we can meet those principles?

MR. KELLEY:

Absolutely. That's an easy answer for me, yes.

COMMISSIONER PALMER:

Anyone else?

MR. HATCH:

I agree, the same.

COMMISSIONER PALMER:

Okay. Let's see here. Any questions? I'm done.

CHAIRWOMAN MCCORMICK:

Done?

COMMISSIONER PALMER:

Yes.

CHAIRWOMAN MCCORMICK:

Thank you, Commissioner Palmer.

Commissioner Hicks?

COMMISSIONER HICKS:

Thank you. I want to thank you all for coming up and giving us valuable testimony. I took a lot away from it and the passion that each of you have for this issue. And I hope that you can

continue to work together so we can continually improve this process.

Professor Stark, you talked a lot about risk-limiting audits, and one of the things that I'm afraid of in putting that particular piece into any sort of requirements or the principles is the same as methods of receiving ballots because it's about 10 or 15 years ago people would say, you know, for overseas voters, you can fax your ballot back because that was thought of as a quick way to get them back and not necessarily secure but a way for people to remain in contact with the election office.

I think that a lot has been done in the last year or two on risk-limiting audits, and right now, I think that that's the one that people are jumping towards in terms of ensuring that confidence remains high. So, I want to thank you for your work in that. But I wanted to make sure that there are other audits that you would consider in terms of ensuring that the process remains high.

I believe one of you, the election officials, talked about two other audits, basically pre-election audits and doing audits during the election as well, not necessarily dealing with postelection audits, which I think is very crucial, one, in that it has to be -- to ensure that they're done because, you know, it's easy to say we should do audits and then no one does them, so that doesn't help.

But I think that -- I wanted to hear from your perspective if there's any other recommendations that you would make to improve the process besides the risk-limiting audits.

DR. STARK:

So, perhaps I misspoke. I was not intending to suggest that the words risk-limiting audit should appear in the VVSG.

COMMISSIONER HICKS:

Okay.

DR. STARK:

Rather, I was concerned that by not talking about -- at all about the kinds of audits that were in that principle, that it might simply be used to, say, facilitate logic and accuracy testing, which is a form of auditing. I -- there is enormous value in process audits, in logic and accuracy testing, in many, many different kinds of audits. There's lots of different components of the voting system that can misbehave or simply have been, you know, misconfigured. I think we should have audits for usability and accessibility, for instance. I think we need to audit our ballot designs.

But I do think that at the end of the day we need some kind of audit to ensure the integrity of the evidence trail, a compliance audit of some kind, and we need some kind of audit that the -- that the tabulation was sufficiently accurate to determine who really won. And whether that's a risk-limiting audit or some other kind of

audit, I'm agnostic. A risk-limiting audit in some sense I think is the minimum standard because it just says let's be confident that the accuracy is enough to identify the correct winners. There's lots of reasons to do more auditing than that, to do audits that can help trace problems back to their causes, and so forth and so on. But I do think that, at a minimum, we should be auditing the tabulation to make sure that the reported winners really won.

COMMISSIONER HICKS:

Okay. Thank you. Mr. Dickson, I've worked with you on these issues for almost 20 years, and you've never changed.

[Laughter]

COMMISSIONER HICKS:

So, I appreciate your passion to this. One of the questions I have for you is you spoke about being able to do -- to vote independently and privately and not to just -- and maybe I misinterpreted it -- to -- what sort of safeguards are we doing for other aspects of voting in terms of mail-in ballots and so forth? Can you talk a little bit more about that in terms of -- I know that some of the manufacturers have pushed towards using your own device in terms of being able to cast a ballot and then possibly have that ballot printed out or somehow verified. But what are your thoughts on those two principles?

MR. DICKSON:

Well, as for consistency, the Sage of Concord, whose name is escaping me -- somebody help me --

CHAIRWOMAN MCCORMICK:

Thoreau? Thoreau?

MR. DICKSON:

No, his buddy.

COMMISSIONER HICKS:

Whitman?

MALE SPEAKER:

Emerson.

MR. DICKSON:

Emerson? Emerson, thank you.

CHAIRWOMAN MCCORMICK:

Emerson.

MR. DICKSON:

Thank you. Said that consistency was the bugaboo of a small mind.

[Laughter]

MR. DICKSON:

I do think -- I'm very hopeful that people using our own technology is a way to go, that it's -- accessibility is very complex, and it's complex because the level of functionality that different people with the same broad disability have is very, very different.

So, using the technology that we use daily will speed up the process, will -- will, I think, get people to put the additional time in to confirm their vote, will give confidence.

And the other factor here is that the technology and the -- accessible technology is changing very rapidly, and it -- it might be to everybody's benefit to have systems so that people who can afford the latest and most accessible can use it. There will always, always be a need for the election office to provide accessible technology in the voting process because many, many, many -- you know, most disabled Americans are living on less than $12,000 a year, and so buying new technology is not an option for an awful lot of people.

CHAIRWOMAN MCCORMICK:

More questions?

COMMISSIONER HICKS:

No, I'm good for now.

CHAIRWOMAN MCCORMICK:

Commissioner Palmer, did you say you had another question?

COMMISSIONER PALMER:

I had a couple questions, yes.

CHAIRWOMAN MCCORMICK:

Okay. Go ahead.

COMMISSIONER PALMER:

Mr. Stark, I'm going to give you the opportunity to talk about a couple of issues, and anyone else can chime in as well. You know, some of the outstanding issues, particularly with requirements, you know, we have a proposed high-level guidelines. They all meet certain goals that we all want. Some of the issues that have come out regarding internet connectivity, you know, currently that's, you know, minimal but -- and it does exist in some places and -- in certain polling places, in election offices, the use of wireless technology and that sort of thing, barcoding. I guess my question for you is there's going to be -- there's balances -- I mean, there's going to be consequences for whatever we do, and, for example, if we were to ban all internet conductivity in a polling place today, results would not be able to be modem in or sent in. You might even have to have new voting systems through poll books. There may be consequences to that.

As you can see, States are purchasing systems that use barcode technology. What do you say to that, if we banned all internet from the polling place, there would be a dramatic impact on the election community. What are your thoughts about that?

DR. STARK:

Okay. So, I'd like to separate several things. I believe my testimony was that --

COMMISSIONER PALMER:

No, I'm -- I'm not commenting on your testimony. I just --

DR. STARK:

-- that --

COMMISSIONER PALMER:

Yes.

DR. STARK:

-- that devices that are kind of recording and tabulating --

COMMISSIONER PALMER:

Okay.

DR. STARK:

-- votes should not be internet-connected or connected to anything else that is internet-connected. But poll books are a different story. There are very good reasons to have electronic poll books. Of course, you also need paper backup because vote -- especially if you have same-day, you know, voter registration, you'd be able to update those records in real time. That does expose selections to some cyber threats, and we need to be concerned about that, but that's different from the tabulation devices and the devices that are recording the votes.

So, I'm -- I really would argue that the slight increase in speed that you might get from being able to connect a ballot-marking device to the internet or a tabulating device to the internet

just isn't worth the risk, and that if we have to wait another half an hour for someone to sneak in that memory card back to the county office to do this, it's worth it. For someone to phone in preliminary results rather than doing -- connecting the devices to the internet, it's worth it.

Barcodes are a very different issue. There, I see them primarily as spooky rather than an inherent risk to election integrity. There are some ways they pose a risk to election integrity in that the barcodes -- the electronic device that -- the barcode readers are typically on a bus that treats the barcode reader as if it's a keyboard. And if you can fool it into entering an escape sequence, you can somehow get it out of the mode where it's just simply reading data and actually pack the device through a barcode reader. So, that is a threat, and that needs to be taken into account in the design of devices that are going to be reading data from barcodes.

The more important issue from an election integrity standpoint is -- for me is not whether the device -- whether the printed output has a barcode but that the legal standards -- and of course, this is up to States, not up to the EAC to decide -- is that the human readable portion of the ballot is the vote of record and not the barcode.

So, for the purpose of tabulation, for the initial tabulation, the barcode may be helpful to the equipment to capture what the recorded vote was, but for the purpose of audits and recounts, it should be the human-readable printing on the ballot that's used as the item of record because that's what the voter had the opportunity to check. The voter doesn't typically have the ability to read a barcode with his or her brain. Have I answered your question?

COMMISSIONER PALMER:

I think so. I just wanted you to talk about those issues.

DR. STARK:

Yes.

MR. KELLEY:

Can I just chime in? I don't want to talk about the barcode issue, but this is related to internet connectivity. You know, for election officials especially with the volume that we have in California, having the ability for the efficiency of checking in individuals electronically, like Professor Stark talked about on the poll books, is really important. And same-day registration is a great example of why you need network connectivity in those locations.

But having an air gap between that and the voting system I think is critical, and I agree 100 percent with what Professor Stark is saying. In California, since 2005, we've lived with, under statute, prohibition from sending in voting results electronically from polling

places. And I think that has served us well. And I would agree that it's important to have that air gap and that separation between those two systems.

DR. STARK:

And one more thing, having things like remote desktop software installed on tabulation devices just should never, ever, ever happen.

MR. KELLEY:

I hope I didn't --

COMMISSIONER PALMER:

That wasn't you.

MR. KELLEY:

Okay.

CHAIRWOMAN MCCORMICK:

Anything else, Mr. Palmer?

COMMISSIONER PALMER:

No, that was my questions.

CHAIRWOMAN MCCORMICK:

Okay. Mr. Stark, much of your testimony focused on the implications defining the language and corrections that you believe should be made to these principles and guidelines. As you said, the devil is in the details. How do we as Commissioners ensure that these principles are being carried out if we compartmentalize

the requirements and perhaps the test assertions from these higher-level principles and guidelines?

DR. STARK:

I don't know. I don't know what's being contemplated as a government structure to ensure that the ultimate requirements do conform with the VVSG. I don't know to what extent it's up to the Commissioners to make that decision and provide guidance to the rest of, you know, the EAC as a body, NIST, et cetera. But I do -- I think it's an important issue, absolutely critical.

CHAIRWOMAN MCCORMICK:

Thank you.

Mr. Dickson, I just want to make a comment on your testimony. I agree with you. I think we're way past due to figure this all out. We've put, as I said before, a man on the moon. We should be able to figure this out and make sure that voters with disabilities are able to vote privately and independently and on the same basis of every other voter. So, I want to just say I appreciate your comments on that.

MR. DICKSON:

Thank you.

CHAIRWOMAN MCCORMICK:

I also want to agree with you that it is a little bit like Christmas that we have four Commissioners up here, and I think

some of the impetus to getting four Commissioners here was exactly the VVSG 2.0 and its passage. If we separate -- and I guess I will make this question to Mr. Hatch. If we separate the requirements from the principles and guidelines and updates to the requirements don't have to be voted on by the Commissioners in the absence of a quorum, what's the impetus for Congress to actually replace Commissioners at that point?

MR. HATCH:

I would have a hard time guessing their frame of mind, but I will say this. I think if we do separate, I think the Commissioners should always be in charge and should always have the final say. The challenge is what happens if there's not a quorum? And I'm hoping -- and I think there's a way that you can figure -- that you could arrange things so that there still could be some adjustments that could work in the absence of a quorum but still provide you with the authority that you have to ensure that, you know, stuff gets done and stuff gets done the way your oversight feels that it should be done.

CHAIRWOMAN MCCORMICK:

So, is that our responsibility or is that Congress' responsibility? I mean, if we don't have a quorum, is that our responsibility to make sure that there's a quorum or --

MR. HATCH:

Absolutely not. However, I think you -- if you can craft a policy or some kind of structure so that in that unfortunate event if that were to happen again, that the State and locals wouldn't be left rudderless I suppose. We would love to be able to still interact -- still be able to benefit from not just your input but your staff and the ability to update more current -- to bring the details more current in regards to the changing environment. So --

CHAIRWOMAN MCCORMICK:

Well, you know, if anybody wants to draft a recommended policy for us to be able to do that, I would love to see it, because nobody's actually provided us a draft of how we might be able to pull that off.

MR. HATCH:

Yes.

CHAIRWOMAN MCCORMICK:

And I think that puts a lot of pressure on us to figure that out. We need to hear from the community on how to figure that out, and we have yet to hear that. We keep hearing this sort of what if there's no Commissioners, what if we don't have a quorum? We agree with you, but we'd also like to retain a quorum on the Commission, and we do think that's Congress' -- I think that's Congress' responsibility. You know, I'm absolutely welcome to look at any kind of policy that's, you know, presented to us as far as a

recommendation. So, if there's anybody in the community that has an idea of how we might pull that off, I would love to see it.

VICE CHAIR HOVLAND:

As a friendly reminder, public comment's open until May 29th.

COMMISSIONER PALMER:

Madam Chair, I have one question for the panel, one additional question.

CHAIRWOMAN MCCORMICK:

Commissioner Palmer.

COMMISSIONER PALMER:

Does someone know something I don't? Do I need to take out some more life insurance?

[Laughter]

CHAIRWOMAN MCCORMICK:

Any more questions for this panel?

VICE CHAIR HOVLAND:

I did have one other question.

CHAIRWOMAN MCCORMICK:

Commissioner Hovland.

VICE CHAIR HOVLAND:

Thank you.

Professor Stark, I wanted to go back and look at my notes. There was a lot there. I hope you've submitted your testimony in writing because there were some specifics there. I jotted a lot of them down, but backing up to the statement that you came to out of the gate that the principles are terrific and you support the separate structure, can you just talk a little bit more about why?

DR. STARK:

Partly I think it helps explain what the detailed requirements are trying to accomplish, and having a clear statement of what it is that the VVSG is trying to do and why I think is incredibly important. I also would expect that it would afford more flexibility in making changes that are indicated to the detailed requirements without having to revisit the entire architecture of the VVSG. I'm not suggesting that someone other than the Commissioners should have control of that, but it just seems like a good logical framework for thinking about it. It's a way you would design software.

VICE CHAIR HOVLAND:

Thank you.

CHAIRWOMAN MCCORMICK:

Any other questions, Commissioners?

COMMISSIONER PALMER:

Madam Chair?

CHAIRWOMAN MCCORMICK:

Yes, Commissioner Palmer.

COMMISSIONER PALMER:

I just want to thank the panel. Thank you for your testimony today. With that, I'll turn it back to the Chairwoman.

CHAIRWOMAN MCCORMICK:

And I will repeat that. Thank you so much to each one of you for taking out the time today to participate in this hearing. We appreciate your comments and value them, and we will take them under serious consideration as we move forward. So, thank you to each of you.

And we'll call up Panel III, and we'll take a couple minutes' break if we could for restroom breaks.

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[The Board recessed at 5:16 p.m. and reconvened at 5:21 p.m.]

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CHAIRWOMAN MCCORMICK:

I want to welcome our Panel III. We have two representatives of voting systems manufacturers. We have Steve Pearson from Election Systems and Software, who is an EAC-registered manufacturer. And we have Donetta Davidson, former Commissioner and former Secretary, welcome, who is representing Dominion Voting, who's also an EAC-registered manufacturer. So,

I want to thank you both in advance of your testimony, and I look forward to hearing what you have to say.

Let's start with you, the Honorable Commissioner, former Commissioner Donnetta Davidson. Thank you.

MS. DAVIDSON:

Thank you. Thank you, Madam Chairman and Commissioners, for the opportunity to provide feedback regarding the EAC's VVSG 2.0. On behalf of the --

COMMISSIONER HICKS:

Donetta, can you hit the --

MS. DAVIDSON:

-- Dominion Voting Systems, we appreciate how you're making the --

CHAIRWOMAN MCCORMICK:

There we go.

MS. DAVIDSON:

Sorry.

CHAIRWOMAN MCCORMICK:

That's okay.

MS. DAVIDSON:

I forgot. How you're making the pending adoption 2.0 a priority. As being a former Commissioner and Secretary of State, I've closely observed how the Federal certification program has

worked through the years. I want to discuss several points regarding the VVSG 2.0 and how it could implement, impact and take advantage of new and existing voting systems.

First, Dominion is working very hard to prepare for 2.0 adoption. The high-level-set principles that have been approved as the VVSG must now be supplemented by documents that detail functions requirements for how systems can meet the new guidelines and obtain certification. This includes test assessors be used by accredited laboratories to validate the systems comply with the requirements. Manufacturers cannot move forward with substantive development and certification efforts without such information. These details represent important benchmarks for usability, accessibility, security, and operability, among others, based on input from experts and stakeholders. Vendors often provide practical experience to anchor those outputs to the real world.

Along with election officials, we aim to ensure that they are useful for equipment use in live elections. We also know by attending the recent Standards Board meeting the election officials are seeking greater clarification around the availability of 2.0-compliant systems. Significant work remains in completing the entire program. EAC staff has estimated a period of one to three

years between the time of standards completion and development and certification of 2.0-compliant systems, which seems realistic.

A related question is how to handle certifications for existing equipment after 2.0 is adopted. What is the plan for systems certified under 1.0 and 1.1? It may also be necessary to establish a clear process to allow for provisional certification where and when election deadlines and testing dates cannot synchronize.

Second, Dominion supports efforts to ensure a more agile EAC Testing and Certification program for voting systems. The current process achieves the right balance of oversight and independence, but it must become more flexible as agency establishes new policies and processes to establish 2.0, as well as version 1.1 and 1.0.

The national -- there's -- nationally, thousands of local election jurisdictions have different needs, equipment, staffing, budgets, and technical capabilities. We are facing dynamic new threats against elections in the global environment. We have an aging inventory of fielded voting systems which are being replaced. Ideally, the new VVSG program will shorten the time needed to get through the certification process, while continuing to ensure accountability for quality of testing and products.

EAC might also start reviewing the 2.0 principles and draft requirements for clarification and conformity to scope. For

example, we would like to understand how inoperability impacts EAC's quality monitoring program. We need to understand how concepts like component testing will impact security and market approach. As well as we work towards the VVSG finalization, Dominion remains focused on continuing innovations.

In addition to our feedback today, the Commissioners can help to ensure industry participation in 2.0 process is being adequately and appropriately functions. For instance, the agency might consider updating its process for industry representatives to the TGDC to ensure active participation. Development with NIST public working groups process is falling short on promoting productivity, cooperation with industry, and may need to be revised.

In the meantime, we are actively working with States and local election officials who want to make gains in the auditability and resilience of voting systems for 2020 and beyond through paper records and postelection audits. 2.0 will provide our customers with a greater certainty in choosing or maintaining their next-generation voting systems and help maintain confidence in our democracy.

Thank you for the opportunity to provide our comments on behalf of Dominion. I welcome your questions.

CHAIRWOMAN MCCORMICK:

Thank you, Secretary Davidson.

Mr. Pearson.

MR. PEARSON:

I can go?

CHAIRWOMAN MCCORMICK:

Um-hum.

MR. PEARSON:

Well, good evening, I'm Steve Pearson. I'm Senior Vice President of Certification for ES & S. I've been with ES & S for 18 years and overseen the --

CHAIRWOMAN MCCORMICK:

Hit your microphone, please.

MR. PEARSON:

-- and overseen the Federal and State certification process for 15 of those 18 years. I've been closely involved in the EAC's Testing and Certification program since its inception, as well as through the adoption and transition of new standards when the industry migrated from the FEC standards to the current VVSG standards.

I'm honored to be here and thankful for the opportunity to share our thoughts and experiences as we once again embark on the important task of implementing another set of voting system standards.

First, I want to -- would like to say that ES & S looks forward to the approval of the VVSG 2.0 and that we've been an active participant in the working groups focused on developing these guidelines. We are eager to see the underlying test requirements and associated test assertions that will accompany these guidelines as it is these test requirements and assertions that will provide the specific information needed to fully guide our efforts to comply with VVSG 2.0.

As an example, VVSG 2.0 Guideline 9.4, which has been discussed earlier today, states that, "The voting system shall support efficient audits." ES & S systems currently support audits, and we are actively enhancing these systems to enable more robust audit support. We are keen to understand the test requirements, assertions, and details related to efficient audits so we can ensure our solutions comply with these new standards. We will continue to be active participants in the VVSG 2.0 working groups and look forward to the availability of the test requirements and assertions that will guide our systems' development efforts.

There's two primary topics I'd like to address with you today. I'd like to review what it takes to build a voting system to the new standards; and secondly, discuss the implementation, in particular, a discussion around the effective date of the VVSG 2.0 and the need for ongoing support of current VVSG standards.

So, let's take -- what does it take to build a new voting system to a new set of standards? The first thing is clear, concise, testable requirements. It all starts with the great work done by the Standards Board, TGDC, NIST, the EAC, NASED members, manufacturers, and individuals with interest in having secure and accurate elections that led to the recent adoption of the principles and guidelines for 2.0. But that's only the beginning. These principles and guidelines provide the framework for the new standards, but without clear and concise, testable requirements in accompanying test assertions, vendors can only guess on how to build the systems, and we hope we are right.

I would venture to say most if not all of the current manufacturers' voting systems arguably already comply with the 2.0 principles and guidelines. We also feel strongly that the requirements and the associated test assertions or test suites should have VSTL and manufacturer participation in their creation and should be vetted and verified prior to their adoption.

Why is this important? Many of you in the room will recall or were involved in the challenges we had with the initial certifications to the 2005 VVSG where requirements were not as clearly defined as we would have liked them to have been and many were open for differing interpretations by the EAC, test labs, and the manufacturers. Those years were very challenging for all involved

as evidence of the number of RFIs and notices of clarifications that were published in those years and the length of time it took for manufacturers to get through the testing. We cannot underestimate the importance that clear and concise requirements and test assertions will play out of the gate and down the road.

I know we're close with approximately 85 percent of the requirements drafted, but six of the largest and most critical areas remain to be unveiled. We're all anxious to begin our reviews and offer our input toward them being finalized.

That leads to my next critical element in which -- and what it takes to build voting systems to new standards, and it's time. It's for all those reasons I just mentioned. History tells us it will take more time than most of us anticipate. Guessing at the requirements will be -- guessing how -- at how the requirements will be interpreted and tested will result in long and costly test campaigns, not to mention high levels of frustration by States and counties that are unable to get certified systems in a timely manner. At this point, without knowing what the 2.0 requirements entail, it's difficult to accurately predict how long it will take for manufacturers to build, test, and deliver 2.0-compliant systems, but it would not be unreasonable to anticipate a range of 18 to 36 months from the time the requirements and test assertions are approved and made available.

VSTL accreditation: Moving to a new standard is not a trivial exercise for the voting system test labs either. Again, experience tells us it is not unreasonable to expect 18 to 24 months for a VSTL to prepare and achieve accreditation to the 2.0 standard from the time the requirements and test assertions are final. It's important the VSTLs have input to the process and the time expected for them to receive accreditation to the new standard.

EAC oversight: We cannot emphasize enough the importance of having a strong, experienced, fully staffed, and a supported Election Assistance Commission overseeing a successful completion and implementation of the 2.0 standard. The EAC's responsibilities include overseeing the completion and approval of the test requirements and test assertion, the establishment of the Testing and Certification program policies for the labs and the manufacturers, carrying out the testing and certification of voting system hardware and software by the accredited labs, and serving as the arbitrator for all questions that arise with every new standard. Anything less than a fully staffed and supported EAC represents risk to all of us. Excuse me.

A clear timetable: The final point critical to building voting systems to new standards is having a clear and accurate timetable for the entire implementation. The timetable needs to include all steps clearly defined for the completion, the verification, and

approval of all requirements and test assertions, VSTL accreditations, Testing and Certification program policies for manufacturers and test labs, voting systems development, and precertification testing, testing and certification, and ultimately final approval. I strongly recommend we seek input from all stakeholders involved in this process, including the labs and manufacturers, before we set expectations that are unattainable. I urge you all to consider our history and consider all risks in setting proper -- in proper expectations for this implementation.

The last topic I wish to discuss pertains to the decisions yet to be made regarding the effective date of the new standards and the importance of providing ongoing support of the current VVSG standards for the 10,000-plus jurisdictions in the U.S. running elections on today's standards and the risk of sunsetting them.

Today, the vast majority of jurisdictions in the country are either running their elections on voting systems certified to the current standards or are in the process of replacing their older systems and moving to systems certified to these standards. The implementation of new systems in 2019 have been high and are expected to remain high through 2020 and potentially into 2021. It's important that there's a mechanism for these systems to continue to receive bug fixes, security patches, and feature enhancements to allow them to conduct their elections as laws

change, et cetera. States will need modifications to their voting systems.

While it would be great for every jurisdiction to be running elections on the newest set of standards, the likelihood of this happening is undoubtedly slim and should be taken into careful consideration when determining when or if any of the EAC-approved standards should be sunset. We recommend the standards remain voluntary, as their name implies, and allow States to determine which standards are most appropriate for them at each point in time. By forcing the sunsetting of the current VVSG standards in a timetable established by any agency other than the States, we run the potential of alienating those States and forcing them to adopt regulations independent of the EAC's Testing and Certification program.

ES & S offers our appreciation and full support to the Election Assistance Commission for the important work they do for us and the industry as a whole. We also appreciate the services of all of the agencies involved in our combined efforts in creating this Avenue called VVSG 2.0 that will ensure secure and great elections for the future.

Thank you, and I'll be happy to answer any questions you might have.

CHAIRWOMAN MCCORMICK:

Thank you, Mr. Pearson.

Vice Chair Hovland, do you have questions?

VICE CHAIR HOVLAND:

Yes, thank you.

Thank you both for your testimony. I was hoping that you could talk about what the impact of -- or when the EAC lost its quorum, I guess both times, but the loss of a quorum and some of the stagnation in this space, how that's impacted innovation around election technology.

MR. PEARSON:

You know, I think that that -- at that time, while we had -- did not have a quorum, it was difficult to -- for the program to move forward, right? So, I think it is critical to us that we do have a quorum at all times. We all kept very busy, though. We were constantly bringing enhancements, you know, security improvements, bringing new products, but we were able to move forward. But it's really hard for a program, without the full support of the Commissioners, to make progress is what I would say.

MS. DAVIDSON:

I definitely agree. I mean, I sit there without a quorum at the EAC, and you saw the struggle that manufacturers were having, the VSTLs were having. Everybody was suffering because we didn't have a quorum. And it got to where, you know, I decided -- when I

served my term, I said there's nothing I can do; I'm here by myself. So, it was a waste of really taxpayer dollars for me to stay, so I went home with -- I mean, they told me I could stay, but I -- there was no need me being there. And you thought if I leave, maybe they'll take action and name four new people to this agency, and so I -- that was my choice, and I decided that -- but it didn't help.

Now, I think that they're far more dedicated in keeping a quorum. I think that Congress feels different about the EAC, the struggles that we had at first. I think that -- I hope that you don't have to ever address any of those struggles, that you're respected and -- because you do a heck of a job, and we are very, very happy that there's a quorum there and that you're all sitting in those positions.

And, as shown today, the knowledge that you have is -- it's very heartwarming, so congratulations.

VICE CHAIR HOVLAND:

Thank you.

MR. PEARSON:

One -- let me add one more comment if you don't mind. You know, one of the risks that we run is we have to -- only have two accredited labs, and there's generally six of us that are certifying systems on a regular basis. When you get down to one lab and which we were for a while, I mean, that puts a hurt on the entire

industry. And it's not just the vendors. It's everyone. It's the counties, the States. The throughput stops. We need to be in a position that we always have a minimum of two labs and sometimes three, and we need a quorum for that.

VICE CHAIR HOVLAND:

Thank you. In your testimony I know we got into a lot about the requirements, but do you have any commentary about the scope and structure of the principles and guidelines 2.0 as they've been presented?

MR. PEARSON:

We do. We think they're great. We think they're fine, and we will be offering comments for those, but we need more. When you're a manufacturer, we can't do much of those principles and guidelines, so we're all sitting on the sideline waiting for, you know, the details that we need to start designing and planning our systems.

MS. DAVIDSON:

And I think you could take from my testimony that definitely we feel that we can't move forward as fast as we want. You know, you -- you've always got to make sure that it -- everything is in place, and whether it's the VSTLs or the manufacturers, we need those guidelines. But we're supportive of the VVSG 2.0.

VICE CHAIR HOVLAND:

Great. And one last question. Mr. Pearson, you mentioned in your testimony both the voluntary nature of these guidelines and obviously the importance of having wide adoption across the country. Can you talk about or can you tell us what characteristics you think would ensure widespread usage as we move toward completing this process?

MR. PEARSON:

Your question is around widespread usage of the VVSG --

VICE CHAIR HOVLAND:

Characteristics that will ensure --

MR. PEARSON:

-- 2.0 --

VICE CHAIR HOVLAND:

-- that 2.0 is a product that jurisdictions and entities want to utilize.

MR. PEARSON:

I think we all recognize that, you know, we need new standards. You know, the challenge we have is there's -- we're running systems in 45 of the 50 States that are currently on the older standards, and everybody won't be able to move at once. But, you know, as far as the 2.0 standards, it's going to -- it -- like everybody else, it gives us the ability to innovate, bring in greater

security, better processes for -- to increase our throughput, all the characteristics that people here said today.

And I think the important thing is, you know, the market will drive the standards. You know, States and counties, we're already seeing RFPs that are -- they want 2.0 in their voting system. Well, we're quite a ways away from having that. We're anxious to get there, but I think the market will really drive and push everybody off of these older systems, but in the meantime, they need to still run elections, so we need to be able to support them.

MS. DAVIDSON:

You know, the State and locals watch how good of a job -- and what they have to deal with and how robust it is and how they feel the security is there, the buy-in from all communities. And when they see that, I think that you'll see more and more people join the process.

Now, a lot of States utilize it, but they also add to it their own -- do their own testing, so it's not that they don't pay attention to them; they do I feel in many, many cases, but they also add their own requirements as they want by State law that they need and by their rules and regulations. So, it's -- they -- there are two halves really.

VICE CHAIR HOVLAND:

Thank you.

CHAIRWOMAN MCCORMICK:

Okay. Commissioner Palmer, do you have questions?

COMMISSIONER PALMER:

Yes, thank you.

CHAIRWOMAN MCCORMICK:

Go ahead.

COMMISSIONER PALMER:

One of the things -- thank you for your testimony. One of the things I think I heard you both say is that the quicker we get our work done giving you some clear direction, the faster we can get voting systems and the new technologies to the public and to the voters. Do you have any comments on that? Is that basically a true statement?

MR. PEARSON:

That is a true statement.

COMMISSIONER PALMER:

So, we're on a -- you saw probably some presentations and timelines. Would you recommend that we have something done by 2020 so we can make sure we have new voting systems that are on the market at least for the 2020 for Presidential?

MR. PEARSON:

To have something to the level that we need, requirements and test assertions, would be faster than the pace that we're talking

about, the rollout of the 1.0. And I don't think it's possible or it's impractical to be able to do that.

COMMISSIONER PALMER:

It's not impossible or impractical?

MR. PEARSON:

I think it -- in order to be in a position that manufacturers can start building, I think 2020 is very ambitious for these requirements to be finished, to be vetted, validated, as well as the test assertions that -- the labs need the test assertions for these requirements. The manufacturers need these test assertions. So, there's a lot of work ahead of us.

COMMISSIONER PALMER:

So, let me just follow --

MR. PEARSON:

I don't know that it can get done in that time frame --

COMMISSIONER PALMER:

Let me follow up on that.

MR. PEARSON:

-- just from my experience.

COMMISSIONER PALMER:

So, we say we're 85, 90 percent done with the requirements, not test assertions but --

MR. PEARSON:

The drafted.

COMMISSIONER PALMER:

I'm sorry?

MR. PEARSON:

Draft -- drafted.

COMMISSIONER PALMER:

The drafted. So, what you're encouraging us to do is make sure we have a process in place that brings in the labs and the manufacturers and other stakeholders to make sure we get this right the first time and not go through a process back -- I don't know if it was a decade ago, but we struggled because they weren't clear and concise.

MR. PEARSON:

Yes.

COMMISSIONER PALMER:

Manufacturers brought it in and had to bring it back because -- and there were some -- how do we get to a clearer standard that everybody understands? So, what you're saying is that we need to have a collaborative process to make sure these requirements are clear and concise the first time in 2020 to make sure we can meet three to five years out. We could have -- we could have systems available for the next Presidential election.

MR. PEARSON:

Yes, we're looking for more of a collaborative effort here. And I think by having the labs engaged, the manufacturers engaged who were part of that process, and when they get finalized, we have a -- we have an understanding that's a clear understanding. We're not guessing at what the interpretation is on any one of these requirements then.

You know, the last time around, these requirements got rolled out and everybody was building their systems to what they thought was the right solution. And then when we got into certification, we found out something different. It was -- the interpretations by the labs were different than the manufacturers, and interpretations by the EAC was different than the labs and the manufacturers, and it literally took us from the time that we started -- and I -- one of the other manufacturers -- it took us both -- once we started in the program, it took us 22 months just to get through the testing, and that was -- and prior to that, you got to add the time it took to even develop the system to -- so it was about a four-year proposition to get products through the process and into the field, and that's what we want to avoid here. And I think we can.

MS. DAVIDSON:

Yes. The RFIs, you know, that was done during that process just took more time, and -- because it wasn't completely

vetted at the -- you know, at the beginning. And he's absolutely right. The longer it takes for a manufacturer to get tested, the more costly that is for the manufacturer, and then that rolls over to more costly it is to our -- the States or our locals. And we've got to remember that, everything that we do, it's costly for you, too, because you're reviewing it time and time again and saying, oh, it's -- you know, it's not going to work. So, if we could do it upfront, even if it takes us a few months longer, it's worth it.

COMMISSIONER PALMER:

My next question is you mentioned the market and, you know, people have different opinions on what the manufacturing system -- manufacturing market is. I guess part of my concern is we don't want to do any harm to the market as it is. We want to improve that market because I think a better market is good for election officials, good for voters. How do we -- you know, do you have any comment on that on how, as we approach the VVSG 2.0 requirements and test assertions, how -- what should we be concerned about and take into consideration to make sure we protect the market?

MS. DAVIDSON:

Well, one thing I think that you need to remember is do not set policy. When you were talking about provisional ballots, States have their laws on how to count those ballots, and sometimes they

need to know the identity of that person, look it up to see where they actually live to know what part of that ballot they count. So, it's important that, you know, a judge -- there's probably a Democrat and Republican that are actually doing that process and looking that up, but they're looking at so many of them, they don't care where -- how that person votes. You know, they don't go home and say do you know George did such and such? They don't even know the person in 99 percent of the time.

But it's the States that are making laws. You've got to make sure that you don't get into policy and affect State laws in your standards. And if you do, that's when your States start backing off whether they want to be involved in the process.

MR. PEARSON:

You offer options, you know, and I really think with the new standards, you're going to see different methods for securing systems, you're going to see more innovation, the market will drive that. And every -- we're all going to be there for that.

And I -- and I really can't emphasize enough, you know, if any of you were around during that time period, it -- the market came to a standstill because there was a mandate to get to the '05, and we went two and a half, three years, and there was a lot of people that suffered for that. And what happened was States began pulling away from the EAC program. They had to just for

survival. They had to have systems, they had have updates, and the process was taking too long, so there was kind of paralysis in the industry, but they found a way around it. And that's what we want to avoid.

We -- you know, the -- we recognize the value of this program. Our voting systems are better today than they've ever been, and they will continue to be better. We need the program, but we needed to be an efficient process, you know, as we move forward together.

COMMISSIONER PALMER:

Thank you. Thank both of you.

CHAIRWOMAN MCCORMICK:

The Chair recognizes Commissioner Hicks.

COMMISSIONER HICKS:

Thank you.

I just have a couple of quick questions. Thank you both for being here today and giving your testimony.

A lot has been raised in the last year or two, and this might be going a little bit beyond the scope of the hearing, but it's something that I wanted to get a little bit more information on. And if it needs to be done in writing, then please submit that to us in writing. It's more about the supply-chain piece of it in terms of do

you feel that these principles and guidelines go towards the effective supply-chain aspects of manufacturing your systems?

MS. DAVIDSON:

You know, the supply chains -- I think we really do, and it's -- we also work, right, hand-in-hand with our counties or election officials in our jurisdictions. The supply chain does not just stop, you know, with the manufacturers. The supply chain goes on. So, you know, we work hand-in-hand with them. It's kind of a step beyond because every State's possibly a little different. Like I said, their-- you know, how they set up their election process is different, so their supply chains are different, but we're involved in that a lot. They do it, but we may have suggestions on how they can improve that.

COMMISSIONER HICKS:

Okay.

MR. PEARSON:

Yes, I think from our perspective, from ES & S's perspective, we're not really relying on these principles and guidelines or standards to drive our -- how we respond to the supply chain. We are actively and aggressively managing the whole supply chain process, so, you know, we take that very seriously, yes.

COMMISSIONER HICKS:

Steve, you had talked a little bit about the labs in terms of if we got down to one, how critical that would be. I wanted to, you know, make sure we put on the record that one of the first things we did back in 2015 when we became -- when the EAC reestablished a quorum was to vote on the certification of one of the labs. And I believe that Commissioner McCormick and I, our first trip was to visit that lab. So, I hear what you're saying. I think it's very important. I don't know if there's any other labs out there that are looking toward certification, but I think that you're correct in that two is the minimum that we should have and possibly three would be a better standard for us to have, you know, so that's the issue on that.

In the development of these new principles and guidelines, have your companies been involved in the public working groups?

MR. PEARSON:

We have. ES & S has active participation.

MS. DAVIDSON:

And we also have.

COMMISSIONER HICKS:

How do you think that that process basically worked? Do you like it? Do you think there could be improvements, you know, as we move forward?

MS. DAVIDSON:

As I testified, we think that there could be improvements. Sometimes our -- we're shut down by being involved with other groups, and they don't really hear from the manufacturers as much as we think that they possibly should because we're on the ground level with our locals, and we probably have a lot more information that should be considered.

COMMISSIONER HICKS:

Okay.

MR. PEARSON:

I'm glad you asked that question. You know, we've been -- we've had active participation since day one, and we fully support the use of working groups to allow for full input and transparency into the creation of the new standards and the new requirements. However, I have to point out some of the working groups have been more productive than others. There's at least one workgroup -- working group, and I think there might have been reference to it earlier today, that at times suffered from a lack of decorum and professionalism. In fact, as you know, NIST had to call timeout to establish new rules of engagement for that group before it could proceed.

I should also note that some of the working groups actually had somewhat of a chilling effect on the vendor input, as Donetta referred to, as many of our contributions to the effort were often

challenged through inflammatory tweets, mean-spirited and unprofessional emails, and scathing media stories. So, that's the impact that it has when that type of behavior is taking place. You want these to be open-forum processes.

Again, we believe in the support and the transparency of the working groups. We just respectfully request that groups that participate are factual, honest, and professional. That's all.

COMMISSIONER HICKS:

Thank you. My last question would be you had mentioned that it would take 18 to 36 months to put a new voting system out there if we had the requirements in, principle and guidelines developed, so you're basically saying that if we did that today, then you could not get a -- probably it would be ambitious to get a new voting system out before the Presidential election in 2020?

MR. PEARSON:

To the 2.0 standards it --

COMMISSIONER HICKS:

Yes.

MR. PEARSON:

-- would be -- it would be impossible at this --

MS. DAVIDSON:

You've got to remember that there's -- acceptance testing, and they have primaries, so you -- it would have to be done before

the primaries, and that would be really early for a lot of States. I think it would be February. So, you know, you're thinking about acceptance testing of that equipment, and, you know, then training, doing new manuals, training judges, not only training staff but you're training judges, and educating the public on what the new system is going to be.

So, to put a system in, I think that was one of our mistakes by having HAVA say that we needed to purchase equipment, and everybody was buying equipment in 2005 and 2006. There wasn't enough support from the manufacturers. They couldn't support all of their, you know, locals in getting that election done. And we had more problems in that election then we had in any other election. The next year, 2008, it ran much smoother because they were trained, they had training material. You know, everything works together. You've got to remember you can't just put it out there.

MR. PEARSON:

The other aspect of that is we don't know what these requirements are, so we don't know what the impact to the current systems are, we don't know how big of a lift it's going to be. You know, and today, when we plan a release -- and we certify three to five releases a year. We have -- we move quickly. But the planning starts, and it's generally a 12-month process for us for every release that we rollout. I mean -- and that's just enhancing

what we have, not building to new requirements, so -- I mean, so we don't really know. That's why I'm saying at this point it's just -- we just have to be cautious, and I think it's unfair to -- for -- to set false expectations for States and counties to think that they're going to have something in a year. I mean it's -- I don't even think a brand-new vendor coming in that didn't have to support other systems and other -- all of their customers would be -- there's no way just from my experience.

MS. DAVIDSON:

Yes. And the RFP process takes a long time.

MR. PEARSON:

Yes.

MS. DAVIDSON:

They may do an RFI first, and then the RFP. That takes time --

MR. PEARSON:

Yes.

MS. DAVIDSON:

-- so it's not -- I mean, it's a nice dream to have, but folks, I wouldn't --

MR. PEARSON:

Yes.

MS. DAVIDSON:

-- I wouldn't go out and talk about it being ready to go in 2020. It's just not going to be there if it's done right.

COMMISSIONER HICKS:

Thank you, Madam Chair.

CHAIRWOMAN MCCORMICK:

Thank you, Commissioner Hicks.

It's been, you know, mentioned and everyone knows the first 1.0 guidelines were 2005, and then the process stalled. And when Commissioner Hicks and I came in, we passed an update, 1.1. 1.1 has been in place for over four years now, and we haven't seen any -- we haven't seen many submissions to that standard. I want to make sure that we don't run into that situation again with 2.0. Could you explain to me what the issues were with 1.1 that prevented the manufacturers from bringing systems in under that standard given that we had over four years for the manufacturers to do so?

MR. PEARSON:

I'll take the first shot at that. You know, when it was rolled out, we did an analysis of it, and we compared it to the 1.0. We then broke it down to understand exactly what the impact was and the number of hours from a development, testing, and certification standpoint. It was about -- it was a very long effort. It was about a two-year effort to migrate all of our systems to the 1.1 standard.

And the activity had already started on the 2.0. To make that kind of investment and quit building other products so that we could migrate our products to meet the 1.1, it really just didn't make good business sense for us knowing that the 2.0 was coming right on its heels.

The other aspect of it, when -- after we completed this analysis, we met with many of our best customers and largest customers, and we asked them to you want this and do you need it? And they said we don't need it. And that helped us kind of cement our decision to keep focusing on building good products and supporting our customers and we'll wait for the 2.0, and we're committed to the 2.0. We're anxious for it.

MS. DAVIDSON:

I agree. And when you really think about -- think about it, and when the -- all the industry sold equipment in 2006, many of them said we cannot replace equipment now for -- we're really waiting for the 2.0. I know we certified to California -- and you have, too --

MR. PEARSON:

Um-hum.

MS. DAVIDSON:

-- and may have a lot of the 1.1, so we did certify to a lot of the issues in 1.1 because California put those in the requirements.

But to build to it totally for States, they weren't ready to purchase equipment was one of the things that we really were -- you know, put on the table to think about our -- moving forward and how we would move forward.

CHAIRWOMAN MCCORMICK:

So, one of the structural suggestions has been for us to pass this VVSG principles and guidelines document and then perhaps an initial set of requirements and then leave it to the EA staff -- EAC staff to update or change those requirements, sort of floating basis as needed to sort of be more nimble and more responsive to innovation in technology. What kind of an effect is that going to have on the manufacturers if those standards aren't set in stone, if they're just kind of able to be changed by staff for whatever reason and without a runway of Commissioner approval?

MR. PEARSON:

You know, I respect the heck out of the EAC staff because I've worked with them so closely for so many years, and I know nobody works harder, but I really think that limiting that important role to that small team is probably not the way -- the best way this should be handled. That's my opinion.

MS. DAVIDSON:

Before I would take a step like that, I would definitely -- the Commissioners themselves look at a policy of how would be done

and their involvement with NIST and what, you know, the process that you feel that they'd have to go through to be able to accomplish that, just not give them full reins without really thinking the process through, whether you wanted to do it or not.

CHAIRWOMAN MCCORMICK:

Thank you. Mr. Pearson, you mentioned about the need to vet the requirements, but you didn't mention who you felt should vet those requirements. It's kind of a follow-on question. Who do you think needs to vet the requirements before we put them in place?

MR. PEARSON:

I think the community, the VSTLs, NIST, EAC, the VSTLs, the manufacturers, we all need to be involved in that. There has to be a comment period for that, and they have to -- those comments have to be heard. We need to be able to work together to, I guess, massage these requirements into good requirements. I think that that's really what it's going to boil down to, and I think that, at the end of the day, we'll arrive at a set of requirements that I think we can all live with, and I think that's the best way for us to get a good jumpstart and to increase our throughput for rolling out new systems to the 2.0 standards.

MS. DAVIDSON:

I agree.

CHAIRWOMAN MCCORMICK:

Thank you.

Any other questions, Commissioners?

VICE CHAIR HOVLAND:

I had --

CHAIRWOMAN MCCORMICK:

Commissioner Hovland?

VICE CHAIR HOVLAND:

-- just two quick ones. On the issue of -- jumping ahead I guess to the requirements or at least to the structure, thinking about that, again, this came up in Memphis and somewhat earlier today. I mean, do you think that it would be -- do you think that it accomplishes the goals of being able to be, I guess, efficient or quicker or more nimble but also having a balance that you're talking about there to have things like external technical standards? I mostly keep thinking about the mill standard and if that number or that version gets updated, is that something that we need to vote on, or is that something that staff could update, but if it was an issue maybe that was more controversial, if we had an appeal function, that might be the more appropriate way to address it?

MS. DAVIDSON:

Well, I was there and set up that process where there was an appeal process the Commissioner -- they could come to the Commissioners and appeal the process that the staff was doing.

I -- personally, I like that process, but I -- you are in the field working at. How do you feel, Steve? Because I know at one time they came to us.

MR. PEARSON:

We need an appeal process. We were just never very effective at it I would say, but I -- yes, I think that, you know, there are other standards that we are already complying to that are part of the current standards, so, you know, I think that will live on, and I think as long as they're good, reasonable standards and they bring value, we should find a way to incorporate them in, you know, but we've got to have a good, again, reasonable -- we have to look at this from a reasonable standpoint, right, because we still have to build the systems, we've got to certify them, people have got to pay for them, so you've got to be careful what you ask for.

VICE CHAIR HOVLAND:

And that leads into the other question that sort of relates to Commissioner Hicks' reference to timeline. I just -- you know, I think this summarizes what you've said, but I just wanted to clarify. I've seen some, I think, coverage, reporting on this that would view this process or the VVSG 2.0 process as somehow failing if there weren't machines in 2020, and I think it ignores a lot of the realities we've heard. But would you agree that it also ignores that what we're talking about here and what this process is really about is

upgrading the infrastructure of our democracy? And to the point that you've all highlighted about getting it right, I mean, this is the baseline. Do you agree with that?

MR. PEARSON:

We do. And, as you probably know, we have taken a very active role at the highest levels from a security standpoint, and, you know, we're doing that every day right now, and we're rising above the current standards, and we don't let the standards drive us, okay? So, you know, no, I fully support that.

MS. DAVIDSON:

You know, they mentioned before the airplane and the standards how they were done. You know, our committee, you know, really has worked with the airline industry, the IT-ISAC, and there -- we found there was no comparison really whatsoever to be made between the billions of dollars that -- annually that the Federal Government supports it. And it -- you know, it's a different world that we're trying to compare.

At one of my hearings one day somebody said in the -- you know, I think was a Commissioner said I don't -- why can't you guys get it right? This is not rocket science. And the individual testifying came back and says, you know, you're right; it's not rocket science. Rocket science, they could stop that -- if that -- you know, whether

it's an airplane flying or a -- you know, one of the Challengers going off, whatever, they could stop it a few seconds

before. Election Day, we can't stop it. We got to continue on. So, it's a different world that we're talking about in elections in so many ways, and that's what makes this so complicated. We -- you know, people compare it to an ATM. Well, an ATM you know the person that is depositing the money or withdrawing it. This we don't. We can't know. We don't want to know. So, it's a different world that we are creating.

So, good luck as you move forward --

[Laughter]

MS. DAVIDSON:

-- because it's not an easy life I know, being in your shoes, but we know that you can do it.

VICE CHAIR HOVLAND:

Thank you.

CHAIRWOMAN MCCORMICK:

Thank you.

Other questions, Commissioners?

Just one more thing. You mentioned that the machines already pretty much meet the 2.0 principles and guidelines. Would you agree then that the real rub here is with the requirements?

MR. PEARSON:

And test assertions.

CHAIRWOMAN MCCORMICK:

And the test assertions.

MR. PEARSON:

Yes.

CHAIRWOMAN MCCORMICK:

Would you agree with that?

MS. DAVIDSON:

I agree.

CHAIRWOMAN MCCORMICK:

Yes.

MR. PEARSON:

Yes.

CHAIRWOMAN MCCORMICK:

Okay. Thank you so much for your testimony today --

MR. PEARSON:

Yes.

CHAIRWOMAN MCCORMICK:

-- and for taking the time to let us know what your opinions are and your comments, and we look forward to continuing our relationship with the manufacturers.

MR. PEARSON:

That's great.

CHAIRWOMAN MCCORMICK:

Thank you.

MS. DAVIDSON:

Thank you.

MR. PEARSON:

Thank you all.

CHAIRWOMAN MCCORMICK:

We'll now move to public commenters who signed in today. We have an EAC staff member, Natalie, who has a microphone, and so I will call on you individually. You have five minutes to make a statement. And Mr. Hicks will be running his clock here.

So, I first call Harvie Branscomb from ElectionQuality.com.

COMMISSIONER HICKS:

Again, the green light is for you to speak, yellow means you have one minute left, and the beep and red light means please stop.

MR. BRANSCOMB:

Thanks. Okay. I'm Harvie Branscomb. I'm the other person from Colorado here besides Donetta. I think maybe there are others. I'm very pleased to be here. I'm a developer. I'm an election watcher. I watch in Colorado elections about 25 counties per election, and that's over a three- or four-week period, and I have worked as a canvas board member right behind the County

Clerk in Eagle County, Colorado, where I live, so I have quite a bit of experience.

I'm very concerned about the opportunity for innovation to remain active inside the industry that provides election systems and concerned that the requirements that come out will -- might actually stand in the way in some cases. And my comments here will relate to that.

I also have a written material here, four pages, which I'm not going to read. I'm just going to abstract a few pieces out of it. But I welcome --

CHAIRWOMAN MCCORMICK:

Feel free to submit those.

MR. BRANSCOMB:

I'm glad to --

CHAIRWOMAN MCCORMICK:

Feel free to submit those.

MR. BRANSCOMB:

Thank you so much.

So, I'm concerned about who will manage the requirements, and I heard it as a topic here. If the requirements were to be put out in draft form, as they stand today, we would have to start modifying them immediately basically. But in fact I don't think there would be even a two-year period, and once you set the

requirements in which they would stand without needing some modification. Some of my comments here will indicate that.

Also, when we have the principles and guidelines that are in mutual conflict with each other, we will need to have a way to prioritize which of the principles are going to guide the decision, and that needs to be a rational and not political decision being made but some -- more close to scientific colloquy.

The proposed guidelines, I have two that I'd like to mention, two possible additional guidelines to add, one of which relates to redaction. And redaction is something that's needed when the public is going to get access to the voter -- things like ballots and cast vote records. And right now, there's no mention of it, and I'm a little concerned that that aspect of what I view as the golden election system is one in which all the ballots are actually anonymous and they're all accessible to the public or as close as we can get to that. And redaction will be needed. And if the manufacturers don't provide it, we need to provide guidelines about how that should be done. In other words, it needs to be visible, verifiable, and explained.

Another one relates to a question I have heard brought up here several times, and I'll just read my suggestion for your consideration. When any information is transferred into or out of a voting system, the content or its separable physical container must

be visible by human eye and physically or logistically verifiable as to the content upon request under appropriate security and privacy safeguards. This would implement verifiable isolation of the voting system from undesirable influences.

There -- I'm going to go through about six or seven existing issues that are on the list of open issues that was published by NIST in previous meetings.

One, digital codes on records that are intended to be verified, I have a -- the problem with those, as Philip Stark mentioned, has to do with impeding verification, but it's not a -- not a mission-critical issue.

Indirect identifiers, that becomes a problem as related to post casting, the delayed rejection of eligibility. That occurs not on paper but on electronic ballot, and you need to be concerned about the use of the indirect identifier in electronic ballot. It endangers voter privacy.

The issue of minimal use of hands in casting, that's physical hands, it restricts the design of the voting system, and I'm concerned about the -- I know the intention is to accommodate variability in voter capability but it doesn't accommodate all.

Use of cryptography should be an optional enhancement, not an alternative route to avoid other requirements.

Selections-only ballots, those impede verification, and they also -- they -- when they create a rare style, they cause ballot anonymity problems, and I prefer anonymity as a way to describe ballot secrecy.

Common data formats, it's a no-brainer. Why would there be a controversy there?

The use of the word cast in the requirements is going to be a problem because there's both voter-centric and there's systems-centric usages, and we need to use different words for these systems-centric one. The glossary clearly states that casting is a voter action, which I agree -- I agree with.

And the word count has similar problems because we actually in some States -- mail-ballot States are doing computerized signature verification. That process happens in the eligibility side of the election, not the tabulation site, but we need to have words to describe what happens when a ballot comes in an envelope, the envelope is signature-verified. It then becomes accepted for use in the election, but that's not the point of casting. Casting is something the voter did.

Same kinds of issues happen with the word ballot image needs to be better defined. The word ballot itself when it's in tabulation, it's generally -- in a multi-sheet ballot, it's multiple

sheets. Each sheet needs to be counted, not the ballot as a whole, so that causes problems for election officials.

CHAIRWOMAN MCCORMICK:

Thank you, Mr. Branscomb. Your time is up.

MR. BRANSCOMB:

Great. Thank you. The rest of it is in my --

CHAIRWOMAN MCCORMICK:

Well, we'll look for your --

MR. BRANSCOMB:

-- written testimony.

CHAIRWOMAN MCCORMICK:

-- printed testimony.

Do any of the Commissioners have questions for Mr. Branscomb?

COMMISSIONER PALMER:

No, Madam Chair.

COMMISSIONER HICKS:

I was under the impression we weren't asking.

CHAIRWOMAN MCCORMICK:

No question? Okay. Thank you very much for your testimony. I appreciate it.

Next on my list is Andrew Riggle from the Utah Disability Law Center.

MR. RIGGLE:

Good afternoon -- good afternoon or I guess good evening, Commission. My name is Andrew Riggle. I'm the Disability Law Center's Public Policy Advocate. The DLC is Utah's protection and advocacy agency.

Those in this room may be among the only ones in the country to appreciate the 2000 election because it gave rise to the Help America Vote Act. Thanks to HAVA's electronic voting machine requirements, I was able to vote by myself for the first time two years later.

Unfortunately, due to cost and security concerns, there is an emerging conversation about returning to paper ballots. Security and accessibility aren't and should be mutually exclusive. In fact, they should be highly if not equally prioritized when choosing a voting system. Several States have seemed to find a balance using a ballot-marking -- using a ballot-marking machine, which creates a paper trail. Even so, on the machine Utah shows, for example, making the text bigger may not make it big enough to read easily. Also, audio instruction phrasing, the keypad to navigate a ballot on the screen are complex and hard to remember. Additionally, the keypad doesn't follow the standard layout to which many voters who have low vision or are blind have become accustomed.

If these are some of the challenges encountered by voters used to finding their way around obstacles like these every day, imagine the frustration felt by volunteer poll workers who have little or no training who are asked to help.

Fortunately, there are more possibilities. The vote-at-home movement is growing in popularity. We have -- we've also seen how vote-by-mail is increasing electoral participation across the board. Unfortunately, because of an almost complete lack of accessible options, it still requires many voters with disabilities to rely on others.

Thankfully, there are other solutions. For instance, votes enables any voter to cast a ballot using his or her tablet or smartphone. This means voters with disabilities can use the same assistive technology that works for them every -- that works for them every day. It also uses blockchain to ensure that each vote is secure and auditable. Such a system effectively meshes accessibility and security.

Given this and other technological advances, we can and must have secure and accessible elections. As the Election Assistance Commission crafts guidance, please use your influence to encourage States to incentivize the purchase of systems which offer similar equity of access by allowing each and every voter to

exercise his or her right to securely cast a private and independent ballot. Americans deserve and will accept nothing less.

Thank you for your time and consideration of our perspective.

CHAIRWOMAN MCCORMICK:

Thank you, Mr. Riggle. We appreciate your participation today.

And finally, not -- last but not least most certainly, Senator Daniel Ivey-Soto, who is a Senator from the State of New Mexico.

SENATOR IVEY-SOTO:

Thank you very much --

CHAIRWOMAN MCCORMICK:

You have five minutes.

SENATOR IVEY-SOTO:

-- Madam Chair, members of the Commission, and I look forward to conversing with you all over the next couple days during the Board of Advisors meetings as well.

I did -- since I was here, though, during this hearing, I did want to offer a couple of comments. The first just abbreviated comment but I think a critical one that has come up a number of times today, and that is we are election people. As election people, we are process-oriented, and we consistently advise others about the dangers and hazards of procedural shortcuts. Any talk of --

about decision-making in the absence of an EAC quorum should be dispensed with as desiring expediency over process, and this is antithetical to election administration.

Second of all, as we speed towards the finalization of the VVSG 2.0, one thing occurred to me the last time that I went through -- this was after our meeting in Florida and reread the proposed VVSGs, which is that -- which seems to be a major deficiency, and that is that the VVSG 2.0 does not actually clearly and consistently use the term, nor define, ballot. What is a ballot? This such fundamental issue in elections is one that is almost assumed in the VVSGs. And it is for me a -- something that is -- that we need to actually address.

The -- although the -- and particularly, by the way, when you look at Principle 7 and you look at the four guidelines under Principle 7, the four guidelines under Principle 7 seem to contradict Principle 7 itself. So, this is not an inconsequential matter.

Is the ballot what the voter views? Is the ballot what the voter marks? Is the ballot that which is tabulated? Is the ballot all three or can those be dissected from each other? This hugely matters. And let me give you an example. The -- one of the previous public commenters mentioned selection-only ballots. So -- and -- right, so this is where a voter makes selections using an electronic device and then gets something that only has the voter's

selections. Despite all of our diligence and best practices, every now and then there is a name left off a ballot. When we discover, we need to fix it or we try to fix it right away. How do we actually know which ballots didn't have the name presented to the voter if we don't have the name of every candidate on that which is auditable at the end?

The -- for me, VVSG 2.0 should define clearly what is a ballot. That description should require that the ballot, one, contain all of the choices placed before the voter; two, be that instrument which is tabulated; and three, either be memorialized as or preferably be the voter-verified paper audit trail, which can be audited.

Thank you very much.

CHAIRWOMAN MCCORMICK:

Thank you, Senator. We appreciate your comments and we'll take them into consideration.

That ends the public hearing for today. Do I have a motion to end the public hearing?

COMMISSIONER HICKS:

I move that we end the hearing.

COMMISSIONER PALMER:

Second.

VICE CHAIR HOVLAND:

Second.

CHAIRWOMAN MCCORMICK:

Public hearing is terminated. Thank you.

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[The Public Meeting of the United States Election Assistance Commission adjourned at 6:28 p.m.]

bw/cms