

**United States Election Assistance Commission**

**Public Hearing**

Held at

1:13 p.m.

Wednesday, April 10, 2019

The Peabody Memphis

149 Union Avenue

Continental Ballroom (Mezzanine Level)

Memphis, Tennessee 38103

VERBATIM TRANSCRIPT

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The following is the verbatim transcript of the United States Election Assistance Commission (EAC) Public Hearing that was held on April 10, 2019. The meeting convened at 1:13 p.m. and adjourned at 3:31 p.m.

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CHAIRWOMAN MCCORMICK:

I call this public hearing of the U.S. Election Assistance Commission into order. I want to again remind everyone to silence their cell phones if you have a cell phone with you.

Thank you for being here, and for those online, we appreciate your patience in getting this going. We are looking forward to hearing your comments for -- to the Commission regarding our consideration of the Voluntary Voting Systems Guidelines 2.0.

As you can see, we have a full complement of Commissioners for the first time in many, many years, and we're very excited about that. That's helped us get back on track after some delays with one Commissioner leaving and the government shutdown, but we are happy that the Voluntary Voting Systems Guidelines -- principles and guidelines document is out for public comment right now. It will be out for public comment until, I believe, May 29th. And so we urge those who are interested in filing comments to do so. These are very important to us going forward. With the increased scrutiny of -- on elections and our voting systems, your input on this process is more vital 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 our Testing and Certification program in some measure 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 in our country.

It's also important that we hear from the public, as well as various stakeholders in the election community. All the above are important to this process, and we will take everyone's comments into full consideration as we move forward. We need to do our best to get this right, and we'll strive to do so with your help.

Again, thank you for attending and for watching online and for participating, and I look forward to hearing your statements and comments this afternoon.

I'm now going to pass the mic over to Vice Chairman Ben Hovland for his comments, and then if the other Commissioners have comments, we'll hear from them as well.

VICE CHAIR HOVLAND:

Thank you, Chairwoman McCormick. Good afternoon. It's great to be here participating in my first public hearing since being sworn in earlier this year, and it's even better to be here with a full quorum of Commissioners. I know we're all pleased to have the

EAC back in business or at least back in business to where we can vote.

Just days after Commissioner Palmer and I were sworn in, the four of us unanimously voted to start the 90-day comment period on the newest version of our Voluntary Voting System Guidelines, or VVSG 2.0, which is why we're all here today as part of that process.

Voting to open the comment period was made possible thanks -- I want to acknowledge all the work that was done to get us to this point, the work of my fellow Commissioners, colleagues of the EAC, especially our Testing and Certification team, former Commissioner Masterson, the Standards Board, Board of Advisors, the folks on the TGDC, our partners at NIST, and certainly NASED, NASED and all of those who have participated in the public working groups that have informed this important work to date.

It really has been a process. I know that -- I know that folks are ready to get this done. We're certainly ready to get this done. But as Chairwoman McCormick said, it's important to get this right. And so certainly that is the reason that this has been such a public process, and we will ensure to continue -- ensure that that continues because we do need to make sure that the systems that we -- or that this VVSG 2.0 is able to help strengthen the infrastructure of our democracy. And so I really just look forward to

hearing from the witnesses today and continuing to participate in this process. Thank you.

CHAIRWOMAN MCCORMICK:

Thank you, Commissioner Hovland.

Commissioner Hicks?

COMMISSIONER HICKS:

Thank you, Commissioner McCormick.

And I just wanted to say congratulations on becoming Chair a little over a month and half ago, and I also wanted to welcome my two newest Commissioners. And it's great to have a full contingent of four Commissioners here for the first time in almost 10 years.

And I look forward to hearing from staff and the -- and NIST and others on the importance of VVSG 2.0. We've worked very hard and diligent on this for the last 3 1/2-plus years to get us to the point we are right now, and I look forward to the -- seeing the comments that go until the end of May and going beyond that in terms of getting these out as quickly as possible, you know, because this is one of the most important things that our Commission has to do in moving forward with that. I just wanted to say congratulations again and look forward to hearing from everyone. Thank you.

CHAIRWOMAN MCCORMICK:

Thank you, Commissioner Hicks.

Commissioner Palmer, do you have comments?

COMMISSIONER PALMER:

Thank you, Madam Chair.

Once again, I'd like to thank Tom and the staff that were here, particularly Chairman McCormick, as they developed these high-level principles over the last couple of years in conjunction with NIST. Thank you, Brian. He's our Executive Director. Brian Newby, our Executive Director, will be testifying today, and the rest of the staff at the EAC for keeping it together until we get a full quorum and start this process as we look at the high-level guidelines and then complete the rest of the VVSG 2.0.

CHAIRWOMAN MCCORMICK:

Thank you, Commissioner Palmer.

We'll get going with our first panel, which is Brian Newby, our Executive Director; and Ryan Macias, our Acting Director of Testing and Certification at the Election Assistance Commission. So, thank you for your testimony today.

MR. NEWBY:

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

Today, we begin what is anticipated to be three public hearings in conjunction with the Voluntary Voting System Guidelines 2.0 currently out for public comment through May 29th.

Section 222, process for adoption of HAVA, I thought it would be worth reading the first paragraph. "General requirement for notice and comment, consistent with the requirements of this section, the final adoption of the Voluntary Voting System Guidelines for modification -- or modification of such guidelines shall be carried out by the Commission in a manner that provides for each of the following: 1) publication of notice of the proposed guidelines in the Federal Register; 2) an opportunity for public comment on the proposed guidelines; 3) an opportunity for a public hearing on the record; and 4), publication of the final guidelines in the Federal Register." While we're not there at number four, we are there with the first three.

And today's hearing will focus on the background that got us to this point. Ryan Macias from the EAC's Testing and Certification program will provide background on previous standards and guidelines and the process taken for this new version. Ryan has his computer at the ready to search for any notes and materials in anticipation of questions that may be raised by the Commissioners.

The VVSG were passed by the TGDC, the Technical Guidelines Development Committee. The Director of NIST, the National Institute of Science and Technology, chairs that committee. Mary Brady from NIST will explain the process undertaken by the TGDC.

Once the TGDC provided the VVSG, as required by the Help America Vote Act, to the Executive Director, the VVSG was shared for a 90-day period with the VVSG committees of each of EAC's advisory boards, the Standards Board, and the Board of Advisors. Greg Riddlemoser, the Chair of the Standards Board; and Michael Yaki, the Vice Chair of the Board of Advisors, will each speak to the process undertaken by their boards.

Finally, as a gracious ambassador to the great State of Tennessee and the Coordinator of Elections with the Secretary of State's Office and a former Standards Board Chair, Mark Goins will provide a Tennessee perspective to the value of TGDC and VVSG 2.0.

From there, members of the public may also comment and then our next hearing will be the day before the Board of Advisors, April 23rd in Salt Lake City, and will include representatives from the manufacturer and accessibility communities, as well as other election integrity stakeholders.

Our third hearing to be scheduled but anticipated in Washington, D.C., in May will allow for stakeholders in the D.C. area to speak as well. And after the background, I will hand the discussion to Ryan Macias.

MR. MACIAS:

Thank you, Executive Director Newby. Good afternoon, everybody. My name is Ryan Macias. I'm the Acting Director of Testing and Certification program. I've been with the EAC working on VVSG for three years now, but prior to that, I spent 10 years working directly with the Testing and Certification program in my role at the California Secretary of State's Office of Voting Systems Technology Assessment, including being a Standards Board member.

Chairwoman McCormick, Vice Chair Hovland, Commissioner Palmer, and Commissioner Hicks, first, I want to thank you for scheduling this hearing on this important topic. Vice Chair Hovland and Commissioner Palmer, I know when Ranking Member Klobuchar asked each of you what your top priority would be if you were confirmed, both of your responses pertained to a new set of voting system -- excuse me, Voluntary Voting System Guidelines or VVSG. Thank you for making this a priority.

In addition, thank you, Chairman -- excuse me, Chairwoman McCormick and Commissioner Hicks, for your involvement in the development of the process of VVSG 2.0 over the past three-plus years.

As you are aware, VVSG 2.0 is currently out for a 90-day public comment that began on February 28th, 2019, and closes on Monday, May 29th, 2019. In accordance with the Federal Register

notice, the EAC is asking for comments on two items: All sections of the principles and guidelines and the proposed structure of the VVSG 2.0.

The intent of my testimony today is not to review the principles and guidelines, more to comment on them. I will leave that to the public and any of our other panelists who would like to speak to those items. First, my intent is to lay the foundation for this afternoon's discussion by providing background on the development of VVSG 2.0, and secondly, I will provide you with the status of the comments we have received from the public to date.

Technically, the development of VVSG 2.0 began in 2005 immediately following the adoption of VVSG 1.0. The Help America Vote Act, HAVA, set a deadline for the Technical Guidelines Development Committee or TGDC to provide the first set of recommendations for the Voluntary Voting System Guidelines within nine months after appointing all of its members.

Due to the short timeline for getting out this first recommendation, the TGDC understood that it needed to immediately begin revisiting and drafting a new set of guidelines. Therefore, in 2005, it embarked on the development of what was known at the time as VVSG 2.0. That initial version of VVSG 2.0 was later renamed the 2007 TGDC recommendation since it was

never formally adopted by the Commission, and therefore, never became the Voluntary Voting System Guidelines.

However, in the meantime, it was clear that some of the modifications needed to be made to VVSG 1.0, so version 1.1 was developed and ultimately adopted in 2015. I want to draw specific attention to the difference in naming conventions. Industry standard for configuration management and naming conventions defines the significance of a change. The original name, the 2017 TGDC recommendation, was VVSG 2.0 because the TGDC saw the need for a completely new approach and structure for the VVSG, whereas the version that was later drafted and ultimately adopted was VVSG 1.1 or an update to VVSG 1.0, for example, a patch to the original 1.0.

During the time that the VVSG was being updated from version 1.0 to version 1.1, the EAC lost its quorum of Commissioners, and the work of the TGDC was halted. However, neither the EAC nor members of the election community, including NIST, state and local elections officials, voting system manufacturers, test labs, accessibility experts, and members of the PCEA wanted to lose the momentum of fulfilling the need for new guidelines. Therefore, the EAC and NASED each created working groups, the EAC Future of VVSG Working Group and NASED VVSG Working Group, respectively.

Two main takeaways from those working groups are, one, the scope of the VVSG must be defined; and two, the purpose of the VVSG is to determine policy objectives and the guidelines that they are trying to achieve.

In 2015, immediately upon the reconstitution of a quorum of EAC Commissioners, the recommendations from the EAC Future of VVSG Working Group and NASED VVSG Working Group were provided to the new Commissioners. Additionally, the TGDC was being reassembled. Those directly involved with the development of VVSG 1.1 understood that it was a good thing to have it adopted, but it was only a short-term solution while developing the VVSG 2.0.

By the September 2016 TGDC meeting, there was already a draft of the VVSG 2.0 charter that defined the structure of the document laying out the fact that it would be developed in a hierarchical fashion with principles and guidelines, then requirements and test assertions, aligning it with the second takeaway from the working groups, as previously defined. The structure was defined and formally adopted within the VVSG 2.0 chart -- excuse me, the charter of the VVSG 2.0 at the February 27 TGDC meeting after the scope of the document was finalized, as well as fulfilling the other main working group takeaway.

Following the adoption of the charter in February 2017 the principles and guidelines were finalized, and the TGDC unanimously recommended that VVSG 2.0 be provided to the EAC Executive Director to be presented to the Standards Board and Board of Advisors. Each board received a copy of the VVSG 2.0 and deliberated on it at their April 2018 meetings. Both boards at their respective meeting voted on the resolution that, quote, "recommends to the United States Elections Assistance Commission that the proposed modifications to the Voluntary Voting System Guidelines recommended by the Technical Guidelines Development Committee on September 12th, 2017, be adopted by the Commission."

Unfortunately, however, at that time the EAC had yet again lost its quorum of Commissioners and needed to pause the HAVA mandated process, including a public meeting, until a quorum of Commissioners was reconstituted. In February 2019 not only was a quorum of EAC Commissioners reestablished but also for the first time in a decade the EAC now has four Commissioners seated. Therefore, today, we provide public testimony and comments on the VVSG 2.0 in hopes of fulfilling the recommendation of the EAC's Board of Advisors to, quote "consider the draft VVSG 2.0 principles and guidelines for full adoption, considering the comments offered by the board," end quote.

I look forward to hearing the comments from the public this afternoon, at the public hearing in Salt Lake City on April 23rd, and through any written public comments submitted to the EAC prior to the May 29th, 2019, guideline.

To reiterate, the EAC is accepting comments on all principles and guidelines of the VVSG 2.0, as well as on the structure of the VVSG 2.0 as it currently stands -- oh, excuse me.

As it currently stands, the EAC has received public comments from 19 entities. Ten comments are informational and do not pertain to either the content or the structure. None of the comments relate to the structure of the VVSG 2.0, and nine comments are associated with the content.

The 10 comments that are informational and do not pertain to either the content or structure were request for copies of the VVSG 2.0, suggested updates to the website containing the VVSG 2.0, and requests for additional information on the VVSG 2.0 or the process for its adoption. Eight of the nine comments associated with the content are not specific to a principle or guideline. Rather, they each supported the concept of principle 9, which states "auditable." The voting system is auditable and enables evidence-based voting. Most of the eight comments in support of principle 9 specifically describe support for process of fulfilling guidelines 9.1, 9.2, and 9.4 such as paper ballots and risk-limiting audits.

The other commenter addressed specific principles and guidelines. There were 14 individual comments submitted within the commenter's response. Most of those comments are requesting clarification or substantiation to ambiguous language such as "define the word 'easily,' 'real world,' what are best practices, will there be multiple best practices offered?"

In closing, I want to thank each of you for making the VVSG 2.0 a priority and making your first course of action a unanimous vote to open the public comment period and begin holding public hearings. Moving towards a new set of guidelines has been a lengthy process that many members of the election community, as previously notated, have strived for since 2005. As we approach the final stages, I have high expectation that we will work together to push VVSG 2.0 across the finish line and have it ultimately voted on and adopted.

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

CHAIRWOMAN MCCORMICK:

Thank you, Mr. Macias.

Commissioners, do you have any questions for the panelists?

VICE CHAIR HOVLAND:

Mr. Macias, I know that we're here today to discuss the guidelines and principles, but just for the benefit of us and the audience, can you comment or briefly discuss the other steps in the process, both finalizing the requirements and the test assertions and the best available timeline we have to date?

MR. MACIAS:

Yes, so, I will be giving a full presentation on that tomorrow, as well as I know NIST will be speaking in regards to the requirements as well.

And so -- but from a process standpoint is last week -- Monday of last week the -- about 80 percent, 90 percent -- and I will let NIST speak to the full number; I'm making an estimation -- of the requirements were provided to the TGDC, the Technical Guidelines Development Committee, to begin looking at them. There are a few items that are still outstanding that we will be discussing with the boards, first the Standards Board tomorrow, and then the Board of Advisors at their meeting moving forward. During that time frame and in the presentation that will be coming from NIST, you will also hear what the status of the test assertions are as well.

But in regards to timeline, I can't really speak to that at this point. The best estimation I can give that we have been discussing with NIST is approximately 60 days after we have finalization of

those outstanding items of the requirements that we're still looking into right now.

VICE CHAIR HOVLAND:

Thank you.

COMMISSIONER HICKS:

Mr. Macias, a quick question for you. The -- and, Executive Director Newby, if you want to answer as well. So, this public comment period is not the first time that the public has been able to participate in the process, correct?

MR. MACIAS:

That is correct. So, one of the things that we undertook during this process -- and we, as the general elections community, has really been at the forefront of NIST, along with the TGDC -- is holding public working group calls and public working groups to develop the principles, the guidelines, and now moving forward to the requirements and test assertions. And so for approximately three years we have had weekly, biweekly calls with members of the public for anyone who would like to join for the cybersecurity, usability and accessibility, interoperability working groups, and then there is one called testing as well, which has had a couple meetings but is really to focus on the test assertions and moving forward. So, the public has had the opportunity during that entire time frame to help in the development and guiding these principles

and guidelines to where they are today, in conjunction with the requirements and test assertions that are moving forward as well.

COMMISSIONER HICKS:

And the reason I ask that is because if we've only received about 19 comments, that would indicate that it's not really -- people aren't really commenting on it in particular, but it's the fact that people have already had the opportunity to comment on it is the reason that we've probably only gotten about 19 comments and only nine substantive ones?

MR. MACIAS:

Yes, that would be the assumption is that they've had the opportunity to work through this for three years and that we were able to tighten it up during the Technical Guidelines Development Committee process and through the public working groups that NIST has for getting those to a point where people felt comfortable with them before they were actually put forth.

MR. NEWBY:

I would just add, though, that I think that when the requirements go out for public comment and they are -- they would be required to have public comment as well, I think that will allow people to connect the dots some. So, some of it, the lack of responses may just be because the VVSG by themselves are more of a hierarchical -- the top of the pyramid here, top of the -- bottom

of the pyramid, I guess, however you want to look at it. The table of contents for everything coming down, and so until they actually see the contents, they may not be able to comment completely.

CHAIRWOMAN MCCORMICK:

For clarification purposes, when you say that the public has been involved in these public working groups, did this include vendors or have you had separate conversation with the vendors and manufacturers?

MR. MACIAS:

So, they have been included in the public working groups. These are truly public working groups, and so anyone can sign up through the NIST TWiki as we call it, basically the website that runs the public working groups and the information around the public working groups. And so vendors have weighed in on that.

Separate and apart, just as part of our regular testing and certification process, any manufacturer or vendor that is registered through the Testing and Certification program has regular meetings with the EAC, so we have had separate comments -- or separate opportunities to speak with them as well, but they are also a part of the public working groups, you know, in addition to that separate step, which is something that has just always taken place as one of the benefits for them to get registered through our process.

CHAIRWOMAN MCCORMICK:

So, have the vendors -- this is for either one of you -- had some input that would be important for us to hear? I mean, we did hear, I know, from a manufacturer's meeting -- we just sat on the sidelines -- but can you distill some of the concerns of the manufacturers with the VVSG 2.0?

MR. NEWBY:

I'll just go to high level first, and then I'm sure Ryan will have more details to fill in.

So, at the highest level the concerns were what I had just said, that without the requirements, they don't know what to make -- you know, we've asked them to speak actually at the next hearing, and they're not sure how they would testify or what comments they would make.

And then the labs were also part of that meeting, and their thoughts were even the test assertions, which they said may be better phrased as definitions of requirements, they need to be better articulated so they can understand how it all fits. So, I think the only feedback is that they see the VVSG as the first step of the process, and they don't know yet the context of the whole thing. And that's probably consistent with what I think Ryan had said, but he may have more details as well.

MR. MACIAS:

The only thing that I would add is the one substantive commenter that I had spoken of was a manufacturer, and so they had 14 individual comments, and most were just requesting clarification or substantiation to ambiguous language. They provided some specific was that they would like to see as tweaks, but more it was kind of the broadly of, you know, what does "easily" mean, what does "real world" mean, and when -- regarding best practices, will there be multiple best practices. And so a lot of that will be hashed out with the requirements for Testing and Certification. And so -- but that is a public record as well, so I can provide you a copy of those comments.

CHAIRWOMAN MCCORMICK:

So, in terms of managing expectations, are the vendors able to use what's out there for public comment right now to design systems right now? And given the timeline for requirements and test assertions, when will they be able to start designing systems to these new -- this new Voluntary Voting System Guideline?

MR. MACIAS:

Yes, so that's -- in tomorrow's presentation we -- there'll be two slides that kind of show two different scenarios along that line, but in terms of principles and guidelines, could they begin developing actual voting systems? Probably not to the principles and guidelines. They would need the requirements, which are with

the TGDC right now, to be able to develop to the specific requirements. So, those are in draft, and they are out there publicly. That's what they have always designed systems to.

And -- but I do want to caveat that a little bit because they develop a voting system? Yes, they could. They would -- they may not be able to develop a voting system that would pass certification because those requirements are requirements on the testing and certification of a voting system. And so in order for them to obtain certification, they would need to know what those requirements are.

CHAIRWOMAN MCCORMICK:

And would they need the test assertions as well or just the requirements?

MR. MACIAS:

So, they have spoken to the need for the test assertions. What I will say is in the past there have not been test assertions that were public or available for them, and they have been able to develop a voting systems to them. So, I think hearing from them and having them substantiate why they would need those is, you know, part of -- would be a very good question for the next public meeting when we have them available. But what I would reiterate is they have never had a test assertions in the -- or never have the need for test assertions in the past in order to be able to build voting systems that meet the requirements.

CHAIRWOMAN MCCORMICK:

So, what I'm hearing just based on how long it takes to go through this process, we're not going to see any new systems design before the presidential election, is that correct?

MR. MACIAS:

Yes. So, what you -- again --

CHAIRWOMAN MCCORMICK:

In 2020?

MR. MACIAS:

Yes, so what you will see tomorrow is the two scenarios are laid out I believe off the top of my head -- I don't have it in front of me, but we'll go through it in detail tomorrow -- is basically the earliest the EAC would be able to start accepting voting systems into its testing certification process would be very late 2020. The other scenario says mid-2021.

CHAIRWOMAN MCCORMICK:

Any other questions of the Commissioners?

Mr. Palmer?

COMMISSIONER PALMER:

Thank you. 1.1, there hasn't been a lot of manufacturers to design or bring that in for testing. As we look at 2.0 -- first of all, if you could comment on why that might be. But generally speaking, as we approach 2.0, one of my concerns is that we want to have

guidelines and requirements that will actually bring technology to 2.0 and bring it to the voters. How do we do that? How do we bring the manufacturers to 2.0? And that's for both of you if you'd like to comment.

MR. MACIAS:

Yes, no, that's a very good question. Thank you. And so I think by embarking on the public working group process, by allowing the vendors to be a part of the design and the development, as well as the public, as well as the EAC and this partnership that we have had in building out these requirements is -- number one, gives -- has given the vendors an opportunity to see for the past few years on where the requirements are going, which was not part of the 1.1 process.

Secondarily is we will continue to have discussions and an opportunity to be able to work with the manufacturers on the implementation of it, so I think some of the test assertions, by having those, it further clarifies and takes away some of the ambiguity that we had with 1.0 originally and then even moving into 1.1, whereby it took quite a while. You know, when 1.0 was adopted, we had to go through some interpretations, some clarifications before we could even really begin testing. And this was all happening while vendors were actually submitting their systems.

Now, we have the opportunity to do that through the testing and certification process after the policies have been adopted in advance while the requirements and test assertions are continuing to be worked on, and so being able to develop a strategy and a methodology to be able to have those interpretations and clarifications weeded out during the process before we accept them for a system.

MR. NEWBY:

So, it's an interesting discussion, though, because I think that the easiest way to do it -- to move people to 2.0 is to not certify any more to any enhancements or changes to 1.0 or any new systems to 1.1, and that's kind of a dangerous process because what we heard from the manufacturers and the labs were that they didn't see an environment where 1.0 didn't exist for a long, long time at least.

And I know from my own experience when I was a local election official, we had a pre-EAC-certified system that couldn't be modified anymore because there was no way to certify any of the changes. So, I see the logic of keeping 1.0 around, but I think there's going to be some art to it by the Commission to determine when -- do you keep 3? What if you ever have a new standard beyond that? When do you decide that 1.0 should be retired?

What should happen with 1.1 if we don't have anybody testing to it?  
So, I think those are some questions in general.

I don't know that there's any fast way to move them to 2.0 other than to make 2.0 a good business proposition for the manufacturers and also at the same time you'll see -- States will probably put in the need and requirements that the systems are certified to 2.0, and that'll probably be the best way that they bring them along.

CHAIRWOMAN MCCORMICK:

Mr. Macias, can you clarify for me why we're not seeing systems brought into 1.1? I mean, it's been out there for over four years now, and there's been very little movement by the manufacturers to do anything with 1.1.

MR. MACIAS:

Yes, so the -- I can't speak on behalf of the manufacturers, but what we have been hearing from them is that it was costly to move towards, and we had the opportunity to allow modifications to existing systems, so the systems that are in the field currently, to be able to upgrade them and make modifications to them. And the intent of the vendors -- again, I can't speak for them, but what we're hearing is to modify the 1.0 systems until 2.0 is passed.

And some of that goes to the testimony that I provided, just the differentiation between a 1.0 and a 2.0 is they didn't want to do

the patch of 1.1. Rather, they want to do the wholesale upgrade to 2.0 once it comes forward. And so some of that goes to what Executive Director Newby was just saying as well.

CHAIRWOMAN MCCORMICK:

So, what's the -- what's to prevent them from only ever bringing a 1.0 modification?

MR. MACIAS:

Yes, so two things: One to what Executive Director Newby just said is if we have a sunset date, so they would not have the opportunity to -- so similar to industry standards. You have something like Microsoft. Microsoft Windows XP, when they came out with 2007, they were -- they maintained it for a certain amount of time, and then was no longer there and you had to upgrade to 2007 or sit on a system that was no longer managed. And so if we put a process in place that has, you know, a similar approach to normal industry standards, then they would be required to move to a 2.0.

But the other piece is, at least in our discussions with the manufacturers, is, you know, they're looking for some clarity on a few things, but most of the items that are in 2.0, they have been very involved in and very -- you know, working through the public working groups, and being in support of them. And so I think they see what we heard just recently. They have a complete

understanding of the need for the security upgrades and the accessibility upgrades that are in 2.0. There's some discussion around the interoperability, and we'll hear about those tomorrow. But from an approach of interoperability, I think most of them are on board. It is just how much interoperability and where within the systems. But I think all of the principles and guidelines that we are moving towards, they have been in complete support of, so I see them wanting to move forward.

And not only that, as I, you know, had mentioned, the elections officials and the elections community or at least members of the elections community, have been working on this since 2005, so that's the ultimate. If they start building it into their request for proposals, their RFPs, their RFIs, and into their contracts that they have to upgrade, then the market is going to dictate that for the vendors.

CHAIRWOMAN MCCORMICK:

Thank you. Other questions, Commissioners? Okay.

Commissioner Palmer?

COMMISSIONER PALMER:

No.

CHAIRWOMAN MCCORMICK:

Thank you very much. We'll now have our second panel with Mary Brady from NIST; Greg Riddlemoser, the Chair from the

EAC Standards Board; Michael Yaki, Vice Chair of the EAC Board of Advisors; and Mark Goins, Coordinator of Elections for the State of Tennessee and the former Chair of the EAC Standards Board.

So, welcome to our second panel. Thank you in advance for being willing to participate, and we look forward to hearing your comments. Ms. Brady, would you please go first?

MS. BRADY:

Good afternoon, everyone. Chairwoman McCormick, Vice Chair Hovland, Commissioner Palmer, Commissioner Hicks, thank you for the opportunity to testify at today's hearing on the development of Voluntary Voting System Guidelines, an important step in moving towards a new version of the VVSG.

My name is Mary Brady, and I currently serve as the Manager of the NIST voting program. In my testimony today I will provide background on VVSG versions, 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 the VVSG 2.0.

For nearly two decades, as directed by the Help America Vote Act of 2002 and the Military and Overseas Voters Empowerment Act, NIST has partnered with the Election Assistance Commission 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 in the Voluntary Voting System Guidelines, a set of specifications and requirements against which voting systems can be tested to determine if the systems meet required standards.

As Ryan noted, VVSG 1.0 from 2005 significantly increased security requirements for voting systems and expanded access, including opportunities for individuals with disabilities to vote privately and independently. The guidelines updated and augmented the 2002 voting system standards, as required by HAVA, to address advancements in election practices and computer technologies.

After adopting the 2005 VVSG, the EAC tasked the Technical Guidelines Development Committee with developing the next iteration of the VVSG, which was not adopted but -- and is currently known as the 2017 TGDC recommendations. Rather, some portions of it were retrofitted for minor updating known as a VVSG 1.1, which clarified the guidelines to make them more testable and improve portions of the guidelines without removing massive -- without requiring massive programmatic changes. VVSG 1.1 received unanimous approval from the newly formed quorum of Commissioners in early 2015.

In the early part of this decade, while the EAC flagged a quorum of Commissioners, many efforts were undertaken, all aimed at advancing discussions and core requirements for the next iteration of the VVSG, which we have come to know as VVSG 2.0. NIST participated in a number of these activities, working with the NASED and 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 technologies for military voters, and in leading the IEEE P1622 effort on developing common data formats for use in elections.

At the same time, recent and emerging research in voting systems was reported in two Future of Voting Systems conferences sponsored by NIST and the EAC. While NIST focused on advances in core technology critical to voting systems, including universal design, mobile devices, and assistive technology that provide much greater accessibility and usability, better quality assurance configuration management methods, looking at the effect of new programming languages, more fault-tolerant, and increased capacity and hardware components, new approaches to data exchange, software assurance, and advancements in security that have emerged over the last decade.

A key among these discussions were recognition that there's a large variety of stakeholders in elections: election officials, election integrity advocates, usability/accessibility advocates, manufacturers, voting system test laboratories, academics, and of course government agencies such as the EAC and NIST.

It was imperative that we find a way to engage all stakeholders in construction discussions to move forward. What had happened in previous iterations of the VVSG is each of these stakeholder communities had an incredible ability to have laser focus in their area and in the area that they were most concerned about, and it was difficult to have those high-level discussions regarding trade-offs.

There was an additional recognition that many technologies that form the basis of the VVSGs, including usability, accessibility, security, hardware and software architectures, programming paradigms, system configuration, and maintenance, that each of these areas are separate and deep domains. Advancing in these domains -- advances in these domains can substantially improve voting systems and provide election officials with methods to improve performance and decrease overall costs, so it was imperative that we find a way to tap into -- you know, to this expertise as well. And overall, the community needed an approach

that allowed for additional flexibility and innovation, particularly as election systems adapted to changes in technology.

So, early discussions, particularly with NASED, had led to a four-part approach. This was the principles, the high-level design goals, guidelines, broad system design details for election officials. And these two components together, the principles and guidelines, are somewhat akin to what the gaming industry has done. The requirements were also necessary, so we really couldn't just stop there. The requirements were also necessary as the low-level guidance was necessary for manufacturers to develop systems and test laboratories to test the systems.

This time around, we thought it was also prudent to provide guidance in the form of testing, something that we call test assertions. It's a leftover name from some work that we've done previously at NIST, and this is guidance that ensures that we are achieving the necessary breadth and depth when testing voting systems. And this came out of work with the EAC and NIST with the voting system laboratories to ensure that we had voting system laboratories that were testing equivalently, you know, across the laboratories and that in each of the areas that were critical, that they were going deep enough, that it wasn't just a superficial level of testing but that -- that we could be assured that the -- that the

testing laboratories were achieving the necessary depth and coverage.

So, NIST presented this new approach for the VVSG at the September 2016 TGDC and followed that up with presentations at the EAC Standards Board, the EAC Board of Advisors, and the National Association of State Election Directors, where it received widespread support. To develop these guidelines, a set of public working groups were formed to tap into as many experts as possible in 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 comment.

Initially, the three election-focused working groups developed election process models that served as the basis for use cases in the development of the EAC 17 core functions that define the scope of VVSG 2.0. The work of the constituency groups followed where gap analyses were conducted between prior versions of the VVSG, VVSG 1.0 and 1.1, as well as TGDC 2007 version. This, after all, you know, nearly 10 years had passed since that version. And the gap analysis was conducted between those versions and research and best practices that are pertinent to voting.

Finally, the VVSG 2.0 principles and guidelines were drafted based on NIST research and discussed in detail in biweekly conference calls of the usability and accessibility, cybersecurity, and interoperability working groups. NIST, in keeping with our role as defined by HAVA, brought forth the principles and guidelines for discussion with the TGDC, who unanimously forwarded them to the EAC after their September -- unanimously voted and forwarded them to the EAC after their September meeting.

So, in addition to the expert review by the nearly 500 unique members of these working groups -- and it turns out that a number of the members participate in multiple working groups, so it's over 1,000 across the working groups and the TGDC. The draft was presented by NIST at the Standards Board and Board of Advisors meetings for consideration and feedback.

This high-level approach to describing the VVSGs provided the basis for discussions among all the stakeholders, and it has enabled crucial discussions such as the need for robust auditing capabilities for voting systems security and the need to provide accessible methods 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 decisions.

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

In closing, I'd like to thank you all for your support in moving the VVSG 2.0 process forward and for all of the folks. I mean, as you can tell, there's a lot of great minds that have participated in this process, and I look forward to any questions you might have for me.

CHAIRWOMAN MCCORMICK:

Thank you, Ms. Brady. We appreciate your comments.

Mr. Riddlemoser?

MR. RIDDLEMOSER:

Good morning, Madam Chair, Commissioners. I'm Greg Riddlemoser, a local election official from Stafford County, Virginia, and I happen to be the Chairman of the U.S. Election Assistance Commission Standards Board.

And not to spend too much time reiterating in any way things that have already been said because the comments by both Ms. Brady and Ryan Macias were quite in-depth and explained a lot as to how we got to be where we are. I do want to emphasize one thing and then certainly will look forward to and be subject to your questions.

But what I want to give further testimony about is frankly the partners and the participation that have gone into this thus far, and certainly the Standards Board was part of that, and I'll speak to that in just a second. But there's a lot of overlap. And one of the things that I saw that I thought was brilliant, having spent 41 years in city, county, state, and federal politics and not being a fan of bureaucracy, was how well this worked. Now, granted, it took us quite a bit of time to do the things that Mary Brady said and Ryan has laid out for you, but we got there. And some of the overlap comes from people like Bob Giles, who happens to be on TGDC, NASED, and the Standards Board. There are Board of Advisors that are also on the TGDC, and so there's a lot of overlap in these things.

And so there was stewardship of a process that I found to be fairly spectacular, and the public working groups even had overlap in the sense that Bob Giles was the Proctor for one of the election-related public working groups. And so a lot of us were involved in a lot of different things.

And so of the -- those of us that sat on the public working groups and the TGDC and then these other things, just the sheer volume of the participation was nothing short of spectacular. And while that boils down to some very gifted thinking and leveraging of concepts that were heretofore not even thought about when we

were thinking about how to make voting systems and therefore the voting -- Voluntary Voting System Guidelines agile, which is where we want to go with all of this, is second to none so it's pretty spectacular and impressive the way that whole thing was done with the principles and guidelines, and now we're a good portion through the requirements and of course going on to test assertions and eventually test plans. But the way this was all put together ought to be commended for those who originally thought of it, and NASED I think takes a great deal of credit or should take a great deal of credit and what they've done.

Now, specifically, you asked me here today to tell you how the Standards Board was involved, and the Standards Board over the last few years since its reconstitution once the EAC had a quorum a few years back, has always had a VVSG subcommittee. And I'm the -- happen to be the Chair of that, but my predecessor for the first couple years was Paul Lux from Florida. And we had meetings during the Standards Board and we talked about the VVSG and how it was evolving and where it was going and sought even more input from that small group.

And while we think of the Standards Board as 110 strong, the VVSG subcommittee of the Standards Board is 12, 14 folks. And so those are the people that were involved in an initial public comment if you will, subject-matter expert comment, as little pieces

of the VVSG came together through the TGDC process, those were put out from time to time to the subcommittee of the Standards Board. And those comments were captured and -- or somewhere in the repository within the EAC offices proper. So, that happened. You know, every year we do that at the Standards Board meeting.

Once the TGDC commended the VVSG 2.0 to the EAC, the EAC then, as you well know, turned it back to the Standards Board for their formal head nod if you will. That happened last year at the Standards Board meeting, and there were very few comments that came from the floor there. And we were able to commend that VVSG 2.0 back to the EAC Commissioners with hopes that you would embrace the concept of high-level principles and guidelines as being the VVSG 2.0 and letting the NIST and other subject-matter experts get down into the hard work of putting the requirements and the test assumptions together.

So, the Standards Board has been thinking about this and has been talking about this because it is part of our charter, and the subcommittees will again talk about the results of this hearing today and the work that NIST has done. I happen to be a dinosaur, so I printed out the requirements as they exist, and I am very pleased with how thorough they are.

So, with that being said, I will make myself subject to your questions.

CHAIRWOMAN MCCORMICK:

Thank you, Mr. Riddlemoser.

Mr. Yaki?

MR. YAKI:

Well, here we go. Thank you very much, members of the Commission. My name is Michael Yaki. I'm the Vice Chair of the Board of Advisors to you, as through the HAVA charter, and I am also, as you know, the representative of the United States Commission on Civil Rights, so I can speak to you as Commissioner to Commissioner here.

The Board of Advisors has been very actively involved with VVSG, and I want -- I also want to recognize particularly Neal Kelley, who was our former Chair a few years back, has been our hard-core liaison on these issues and our recognized expert.

And I submitted written testimony to you that details the processes that we've gone through, including adopting resolutions of support, as well as comment on issues of disability access and auditability. I wanted to sort of depart from what I submitted in writing, which will be -- which I -- will be part of the record and just sort of address a comment that Chairman -- Chairwoman McCormick brought up, which is on the Commission of Civil Rights, we're very much involved in the issue of voting, as you are. Our issues are at -- aimed at access, the ability of peoples of different --

of different -- from different communities to really get to the ballot, but we share this common thread about what happens when they get there.

And I think that the most important thing that comes out of this is not just the fact that we've developed VVSG but, as the Chairwoman said, how do we get people to adopt it? What are the -- what are the -- what is our ability, what is our platform, as it were, in order to do it? What kind of influence can we exercise? When we think about -- when we talk about this among the Board of Advisors and the Standards Board and others, we all know that the big issue of course is going to be cost. These things cost a lot. We're designing a better mousetrap. The better mousetrap always costs a little bit more.

In this case, when we are concerned, as many Americans are, about the security and the integrity of the election -- electoral process, we look at it as a way of we want to make sure that whatever hardening we do, whatever kind of -- whatever kind of complexities, firewalls, and other things we put together is going to be done right, and those things will cost money.

And so what is it that we can do as Commissioners, what can you do as a Commission, what can we do on the Civil Rights Commission to sort of put out there the need to create funding for these, what funding streams, what can we do to help some of the

grants that you had that you were distributing last year were very helpful along those -- along that -- along that road, but I think there's a lot more that all of us can do because, in the end, you know, the amazing work that NIST and others have done and the Technical Guidelines Development Committee put together in creating VVSG can't be for naught.

It has to be for something that is real and tangible, and that is -- that is when -- so that every American knows when they go to the voting booth and they punch a lever, touch a screen, whatever it is that they do, that vote will count and will always count. It will always be recorded accurately on their behalf because that is the essence of what we have -- what we are in America is the Democratic value of knowing that all of our votes count.

So, I just say that as an aside on top of my other testimony to say that I commend you and thank you for the great work that you're doing. We'll be here to do whatever we can as a Board of Advisors to support you in that role because, ultimately, this is about how we make our democracy better.

CHAIRWOMAN MCCORMICK:

Thank you, Mr. Yaki.

Mr. Goins?

MR. GOINS:

Sorry. Thank you. Mark Goins, Coordinator of Elections for the great State of Tennessee. First and foremost, I cannot tell you how proud I am to see a quorum here in Memphis, Tennessee, to hear public comments on such an important project. And on behalf of Tennessee, extending this welcome, I certainly hope that you enjoy the barbecue in Memphis. We are -- obviously are the home here of Elvis and Memphis, but drive on up to Nashville and hear some great country music or go to my home place that's in east Tennessee, beautiful mountains, beautiful lakes, home of Dolly Parton, and my beloved go Vols. We are a -- we are a State, they don't have an income tax, so spend, spend, spend. My kids depend on your sales tax revenue.

But anyway, we -- I'm going to be echoing some of what the folks have already said, and certainly I appreciate Greg giving praise to my colleagues at NASED. They did certainly play an important role. But to hear -- today, really I'm here representing the Standards Board, and in 2017 I had the honor of chairing the Standards Board, and we unanimously voted to recommend the scope of the VVSG 2.0. And we did the same thing as far as recommending unanimously the principles and guidelines be the guidance for the TGDC.

Now, what is important about that is the Standards Board is unique to any board I've ever served on. It has local election

Commissions -- Commissioners, it has state election officials, it has Republicans, Democrats, and Independents. It is a true bipartisan board representing all specters of election officials. We did that unanimously. No one dissented, no yelling, no partisan bickering, States weren't versus -- you know, it wasn't State versus local. It literally was a collaborative effort where we rolled up our sleeves, got down to business, and put this forward.

I commend you because the first time you all were able to come to quorum in February, you published this for public comment. You didn't have to do that, but you did it almost immediately, and I appreciate that.

So, we fast-forward from where we were in 2017 to where we are now. I hope that, as we move forward, that the principles and guidelines will continue to receive the same bipartisan support, the same cooperation, no one getting bogged down because, realistically, at its core when you look at the Voting Systems Guidelines 2.0 principles and guidelines, at its core we are focusing on the voter. I mean, we're bringing together the vendors, and I understand their concern. I mean, they need to know what the requirements are to go with testing. But we're focusing on the voter. Essentially, it's election officials coming together with the abstract in mind. We want to have a system that, as you have said, is accurate, that it's easy to vote for all. And, as -- and also secure.

And that's really what these principles and these guidelines are doing.

Fast-forward to where we are in Tennessee. In Tennessee we do consider the EAC the gold standard. When it comes to certification, we, like many States, rely on you. That is a huge responsibility for not just you but also for us. We have to have that trust. We have to have the trust in NIST, we have to have trust in the Standards Board, the Board of Advisors, as well as the TGDC.

And having that trust, there are a lot of confines that you all have to deal with as far as time. And one thing that I heard today from Ryan is, you know, looks like at best late 2020, mid-2021 when we start to see real action from our -- what we've done in the process. I would stress to you that mid-2021 is not an option, that the deadline is late 2020. That's a deadline, you know, a goal even sooner. And I realize there's a lot of confines out there in Federal law, in the process it has to go through, but when we trust you as the gold standard, timing becomes an issue.

I have several counties in Tennessee that are ready to spend funds on voting equipment. We don't want the oldest, we want the latest, we want the greatest. And so my charge to you today and my public comment to you today is anything you can do within the confines that you have in Federal law, speed the process up. Let's keep it civil and keep up the good work you're doing.

As a testament to working with the EAC, many of you have visited our State. You've reached out to us. If I send Director Newby an email, I get a fast response. And the staff is the same. I encourage you to keep the same process as we go forward and develop the best guidelines we can to certify voting equipment.

Once again, thank you for coming to Tennessee.

CHAIRWOMAN MCCORMICK:

Thank you, Director Goins.

Commissioners, questions? Vice Chair?

VICE CHAIR HOVLAND:

Ms. -- thank you all -- first, thank you all for your testimony.

Ms. Brady, would you say that the VVSG 2.0 effort is a significant step forward to modernize voting technology and to bring these standards more into line with other industries?

MS. BRADY:

Yes, I would. It -- certainly, the VVSG 2.0 has -- encapsulates some of the -- many of the changes that have occurred in the security community over the last 10 years. I would -- certainly, much of the new research that's happened on the usability and accessibility front, and it -- it combines that with advances in thinking in terms of election technologies as well, so new auditing techniques such as risk-limiting audits would be possible, you know, under this new paradigm.

VICE CHAIR HOVLAND:

Great, thank you. And just to clarify, again, I asked Mr. Macias earlier about timelines, and obviously part of that is us, but as far as the work that's happening at NIST, can you just clarify what it looks like from your vantage on the requirements and the test assertions?

MS. BRADY:

Okay. So, for the requirements, we are in our last stages, so the vast majority -- I would say probably over 90 percent of the requirements are done. I think that's what you have in this book right here. It -- the what remains to be done is some front material in terms of -- we don't want to just jump right into the requirements. We'd like to have a little bit of discussion, a little bit of intro material for each of the chapters. We are preparing that now. We -- we are in discussions with the EAC on some aspects of the -- of what had been in previous VVSGs that may be better placed in the EAC policy manuals for instance. And we have some work that we need to finish up in terms of identifying benchmarks for a number of the testing capabilities, so in support of a number of tests. In fact, I think I have a list here. Let me sort of go over my list.

So, for reliability, accuracy, physical environment, and volume and stress, so we're working with our statisticians now to go

through a formal design of experiments so that those tests are based in statistics.

VICE CHAIR HOVLAND:

And in your testimony you talked about the test assertions which have not historically been a part of this process or at least in a unified manner. Can you go into a little bit more or reiterate some of what you said about the value of that and why that is sort of enfolded in in this new rollout of VVSG 2.0 and its components?

MS. BRADY:

So, part of what -- part of the rationale behind the test assertions is early -- around 2011 or so the EAC staff had come to us and asked if there was anything that we could do to provide additional guidance to the laboratories so that we could achieve equivalent testing and enough depth in terms of testing, security, and usability and accessibility in particular. In past testing efforts, what we normally do at NIST is we'll read the requirements, we'll set -- we'll rate the set of test assertions, and then we'll go about developing tests. So, what happens in the test laboratories now is they develop their own set of tests, and they're not necessarily mapped to the same set of assertions.

So, they -- the rationale was that if we had the set of assertions and had the test laboratories map their tests there, then we would know something about coverage and we would know

something about, you know, how deep they were going in each of the areas and the -- about equivalence across laboratories. So, that's the purpose, you know, of the test assertions.

They have a tendency to be very detailed and begin to look a lot alike as you go through -- as you go through them. In fact, for VVSG 1.0 and 1.1 we developed over 1,000 of them, and after a while, your eyes glaze over, and that's for certain. So, we -- you know, what we're doing now is we went back and we mapped everything we had from 1.0 and 1.1 to 2.0, and we're beginning within the public working groups to discuss testing strategies to see if maybe this is perhaps the best way to go about it or can we achieve the same type of equivalency through some other methods. You know, so sometimes you'll see me talk about test assertions, sometimes you see me talk about test methods, and it's really the same -- the same type of approach. We anticipate that that will take the better part of a year to get through that process.

VICE CHAIR HOVLAND:

Thank you. I do have some other questions, but I'll share for a minute.

CHAIRWOMAN MCCORMICK:

Commissioners?

COMMISSIONER HICKS:

I've been passed a note asking that the witnesses please speak into the microphone a little louder. And I'll try to stop coughing.

CHAIRWOMAN MCCORMICK:

Do you have a question?

COMMISSIONER HICKS:

I do.

CHAIRWOMAN MCCORMICK:

Okay. Please go ahead.

COMMISSIONER HICKS:

Okay. It'll be a second. Thank you all for testifying today.

Ms. Brady, you had talked about the test assertions being done by the labs first were reconstituted in 2015, the then-quorum of Commissioners voted unanimously to certify Pro V&V as a third lab. Since that time, one of the labs has dropped out, and that was during the time of the -- going through the principles and guidelines. Do you see that the dropping out of a third lab affecting the quality and assurance of the test assertions as we move forward?

MS. BRADY:

I don't think that necessarily affects the quality of the test assertions moving forward. I mean, prior to approving the -- being accepted as a laboratory when we are only two laboratories, so that's what we've had for the vast majority of the program.

COMMISSIONER HICKS:

Thank you. And sorry, I have my voice back now. So, the other piece that I wanted to ask you about, you had mentioned that there were nearly 500 members of the working groups basically spread out over different working groups, so it's basically 1,000 individuals working towards the new principle and guidelines. How has that gone? I'm sure that there's been hiccups in the road, but do you consider this to be an improvement over the 1.0 and 1.1 developments of the principle and guidelines?

MS. BRADY:

Well, I can tell you it's certainly been interesting. There's -- stakeholders are very passionate, and we've had many, many lively discussions in the -- on both the working group calls and on the mailing list that go along with the variety of working groups. I -- my personal belief is that it's better to get this kind of input and to solve problems early in the process than later. I think for past versions of the VVSG there were thousands of comments that had to be dealt with, and you didn't necessarily have the ability to have conversations over those comments, whereas I think in this process, although it's -- you know, it's sometimes difficult, it -- I believe it's a better way.

COMMISSIONER HICKS:

I have a few others, but I can wait.

CHAIRWOMAN MCCORMICK:

Okay. Speaking of those battles with the public working groups, was that over the principles and guidelines document or -- I understand there were some where you had to -- we haven't been formally involved in this process up to this date, that you had to shut some down because the disagreements got so heated. Is this over principles and guidelines or over requirements?

MS. BRADY:

The shutting down of the public working groups for a little bit was over strengthening our ethics rules essentially for participating in the working groups. The discussions -- there had been interesting discussions for both the principles and the guidelines and the requirements, but it was during the requirements development process that we actually shut them down for a little bit so we could strengthen our wording regarding participation in the working groups.

CHAIRWOMAN MCCORMICK:

Thank you. Commissioner Palmer, do you have something?

COMMISSIONER PALMER:

Sure. Ms. Brady, I'm going to ask you what I asked Mr. Macias is, you know, one of the big concerns is is not many manufacturers brought equipment, zero, to 1.1, and we're years after that. And as we develop 2.0, you've been through this

process for three-plus years or more, obviously I would -- more than that even. You know, are we confident or are you confident that manufacturers will build a 2.0?

MS. BRADY:

Well, like Ryan, I can't speak for the manufacturers, but I do -- you know, I can say that the manufacturers have very much been a part of this process. Of those, nearly 590 of them -- or 90 of the participants are from manufacturers, so they're at the table, they hear the discussions. They -- we have essentially brought all of our stakeholders to the table for them to hear those discussions. They've -- they've participated. They -- and they -- it's been very valuable participation in terms of trying to let old stakeholders know the difficulty in developing voting systems and what you have to consider and the technologies that are available to them and how they work and what they can do, what they can't do. So, I think they're in a great position to develop voting systems according to the VVSG 2.0. Am I confident that they will? I certainly hope so.

COMMISSIONER PALMER:

Just to follow up, you mentioned bringing these new election technologies over a decade in the making to the public. Can you talk a little bit about -- and you did mention the accessibility -- some of the accessibility technologies that may be available in 2.0 -- with this new 2.0.

MS. BRADY:

So, I -- I mean, I can talk at a high level, and I don't know that -- whether Sharon Laskowski is here or not, but she is our -- our expert, our NIST expert on usability and accessibility.

But certainly the introduction of the use of tablets, you know, for instance, as a ballot marking device is -- is something that's -- that we didn't have back in the early 2000, and that allows you to, you know, very easily zoom in and -- or to change the look and feel of the ballot to like a -- to be specific to your own needs.

I think -- I think a recognition that -- that we can't have a trade-off between security and accessibility, that is certainly one of the topics that has occurred as a result of the high-level principles and guidelines, that we need both, and that you can't trade off one for the other, probably two important areas.

COMMISSIONER PALMER:

One last question if I could. We mentioned sort of the development of the requirements, and I want to thank you. It's very heartening to hear that we are 90 percent of the way there. We have some outstanding issues that we hope the boards -- and we'll have to address. So, you're working with obviously the EAC, and we appreciate that. We heard some comments that the laboratories, did they have any input in that process to make that process more streamlined?

MS. BRADY:

So, I just heard that last night as well, that they certainly participate in the public working groups, and that's where the requirements are being developed. I think there is certainly the possibility for us to reach out and engage them in smaller, you know, group discussions to -- if there are particular issues that they see in terms of being able to build voting systems. We certainly would like to know that and be able to try to address it before the requirements are finalized.

COMMISSIONER PALMER:

Thank you very much.

CHAIRWOMAN MCCORMICK:

Mr. Yaki, you brought up cost, which I think is a very important consideration here. We heard from Mr. Macias earlier that one of the reasons that manufacturers hadn't been bringing systems to 1.1 is because the cost.

One of the -- I think somebody in this room actually said to me we'd all like to own a Lamborghini, right, but we can't, right?

MR. YAKI:

Right.

CHAIRWOMAN MCCORMICK:

So, you know, how do we -- how do we get those costs under control so that the jurisdictions are able -- well, first, the

manufacturers are able to meet these requirements in cost-efficient ways so that the jurisdictions can afford to buy them given the funding issues that we have in elections?

MR. YAKI:

I think -- I mean, you bring up -- I think we're both going to talk around the same point, which is the difficulty in all this has got to be the question of where -- where election officials, state officials, officials like us make the case of this is a kind of investment that's needed. And when you use the word investment and you say this is the kind of thing that is necessary and important for our democracy but if you couch it in terms of investment, then spending becomes a different kind of issue.

When people see it as just spending, you and I both know there's a negative connotation when it comes to government, but investment, infrastructure, those are -- that -- those kind of -- that kind of verbiage, that kind of description helps sell it a little bit more because, ultimately, this is going to have to be paid by somebody. In all likelihood the Federal Government doesn't have enough money to federally fund every single election system in Tennessee, as much as it might be nice, and certainly not in California.

But where Mr. Goins can go to his -- to his county Board of Supervisors or state officials and say we're going to need to do something drastic about this, we're going to need to put bonds out

there, we're going to need to put something out there that creates the money pool to do this, we're going to have -- I think we just have to do it. It's not a question anymore of saying it'd be nice if it -- and, frankly, that gets to the issue that Commissioner Palmer raises, which is the manufacturers are just falling behind. Well, the manufacturers will follow where the money is, and if the money is saying we want VVSG 2.0 and its ilk everywhere, and if the county boards or the state officials say we are going to issue bonds to do this and we are going to tell our -- I mean, I was a county official. It's a -- it's one of those things where you're just kind of sitting there and you go I -- you, this is -- we're going to put this on your property tax, we're going to put it on your sales tax, we're going to put it on somewhere, but it's -- this is the -- it's a price that we all have to pay. And I think democracy certainly as a value of this country, it is a very small price to pay when you take and you spread that out amongst everyone.

So, there are ways that we can do it. We just have to be courageous enough I think to -- in order to do that from the local to the state to the Federal to say this is the kind of investment. We have to make it. We can't wait around. We have these -- we have -- we can't have NIST and TGDC and everyone banging their heads against a wall for four years coming up with a very good system that will keep our elections safe and honest for the future

and then just say, well, we can't afford it. I don't think that's an answer.

CHAIRWOMAN MCCORMICK:

Well, isn't the concern the smaller jurisdictions that don't have funding? I mean, it's fine, the medium to wealthier jurisdictions.

MR. YAKI:

Exactly.

CHAIRWOMAN MCCORMICK:

I mean, we've heard a lot about old systems and legacy systems. Are those going to get replaced? I mean, this is a huge concern, I mean, for security and, you know, accessibility and making sure that we're utilizing the best technology we can. But --

MR. YAKI:

You know, I don't disagree --

CHAIRWOMAN MCCORMICK:

I -- yes, I just don't see the smaller jurisdictions able to --

MR. YAKI:

And I think --

CHAIRWOMAN MCCORMICK:

-- buy a Lamborghini.

MR. YAKI:

And I think that's where -- that's where, you know, a lot of us have to take the lead and say, look, just as we do with -- I mean, there are -- there are ways to do this when you think about it. There are models out there with rural hospital, healthcare, other things. There's -- there are disproportionate share formulas. There are ways you can funnel money in a way to sort of tilt the balance in a way that a smaller community can afford to have the same kind of good electoral -- election systems that a big city does. There shouldn't be differentiation between small, rural, urban, large, whatever based on your ability to afford the machine.

And I think that maybe step two of the VVSG 2.0 is, okay, now can we take the Lamborghini and turn it into the Model T? Maybe that's something that we need -- maybe that's the next step -- next step forward for -- for the Commission and for the Standards Board and the Board of Advisors because we know how to -- everyone knows how to make the rocket ship to the moon, right? Moonshots, all -- everyone talks about a moonshot everywhere. But it's really about how we take all of that and remember that the computing power of an Apollo spacecraft is less than a pocket calculator is on -- 20 years ago.

So, if we can figure out ways to take the -- take the standards and the technology and the guidelines of VVSG and make it the Model T, that is -- that's really what's going to break it

right now. Until then, it's going to be the cost issue we talk about and whether or not we're willing to make that investment and make that cost commitment. And, as you said, there's some we just won't be able to.

CHAIRWOMAN MCCORMICK:

So, you -- and, Mr. Yaki, Mr. Goins, and Mr. Riddlemoser, if we proceed with this new structure whereas -- wherein we dissociate the requirements from the higher-level principles and guidelines, where do you see the Standards Board and the Board of Advisors in the future? Will you be able to weigh -- I mean, I'm just -- I don't know how you all will weigh in on the requirements if it's just up to the staff.

MR. GOINS:

Well, I'll briefly take it. I think it is an excellent point, and it's something that we have some folks on the executive committee have been discussing recently, that you can't cut the Standards Board out. And, you know, I just bragged about how everyone came together, rolled up their sleeves, and got business done. You know, there wasn't anything being shut down. We did what we needed to do and made the recommendations we needed to do. So, that's something that I anticipate.

For those who are watching and may not know, over the next two days the Standards Board will be coming together. I

suppose this will be a topic of discussion at lunch and dinner because we have a role to play, and we better not be cut out of that role. At the same time, we want to make sure we don't get bogged down, so --

MR. RIDDLEMOSER:

I'd like to take that and run with it just a little bit. The idea of switching a paradigm is baffling us all to a certain extent, but this thing fully implemented is where, if it takes five to eight years to put it to VVSG 2.5 or 3.0, there has to be a way to leverage innovation and agility and other things like that. And so this paradigm, properly implemented, is one where the principles and guidelines are exactly that and not be changed every three, four, five, eight years.

So, if the principles and guidelines are fully blessed by you, the Commission, and we get into the requirements and test assertions, which could be brought iteratively back to the boards annually so when a manufacturer can say because of agility or because of cuts or because of whatever, we'd like to see you change this in order for us to do that and NIST would take an initial look at it, along with the EAC staff, and when it came to the point where we were going to change a sub-portion if you will of the requirements document in order to leverage this new technology, then you would commend it back to the boards for, you know, what

do you think. So, we're not writing a new VVSG every time there's an opportunity to embrace technological innovation or to be agile or whatever word you want to use. And yes, it's a paradigm shift for us, but to go into this completely iterative cycle that takes five to seven years every time we do it, that's not the least bit responsive.

MR. YAKI:

Part of me believes that it's never a bad thing if you think to yourself maybe you've put yourself into obsolescence. Maybe that's a good thing. But I don't think we're at that stage here, certainly not with the Board of Advisors, which is a very different group of folks. I mean, we're all unique, but the Board of Advisors has its own category of people who were brought up from different levels of government, different sense of government together to try and be an advisor to the Election Assistance Commission.

And I think that role is embedded in the charter, it's embedded in the statute, and I think that this is one of these things where -- where, yes, there are going to be a lot of very technical rollouts that the staff are going to be working on, but I think that that -- part of -- again, part of what I think goes to something that you were staying before, which is is there -- is there a way -- and I'm not saying there is, but for the sake of argument, say that there could be a way to take some of the -- to take a system that embodies all the principles of VVSG but is more -- isn't a Lamborghini, right? It's

a Ford. It's -- it can get you there, it would do what you need to do. It would embody all the principles. That's going to be part of this technical rollout.

And I think part of what we can do is help you in the evaluating and judging whether there could be, you know, VVSG 2.0 primo and -- here and whatever, different levels that can -- that maybe make more budgetary sense in terms of how we react and create a market for this, which is desperately needed right now.

CHAIRWOMAN MCCORMICK:

Well, I just would say if we don't see -- if we see no need for another VVSG for another eight years, what's the role of this Commission at that point if it's just the staff updating the requirements and there's no vote on the Commission? What is the role of the EAC under HAVA?

MR. RIDDLEMOSER:

Madam Chair, I think that's a good point, but as the paradigm that I described where we're constantly commending via changes in the marketplace, new ideas, you certainly have to vote to change a requirements document that you adopt, you know, the next year. That will -- that will be a constant need for the EAC to continually recommend things to the boards for advice -- that's why we exist -- and you to make the calls that, yes, we will adopt this new paradigm, whether it's an idea, whether it's actual technology

that's changed, whether it's some other kind of innovation or agile kind of a thing.

But my sense of it is that your role actually gets to be a little bit more intense than it is now in that I believe that the vendor space will embrace new things, and they will want to create new products. And we might be able to see, because of that, even the prices of things go down. And we might not, but they're wanting to meet the needs of their consumers, which are state and local election officials, and to be agile to the stuff that's going on in the marketplace and to embrace new technology and things like that is -- I think is going to create a practically constant desire to change test assertions and requirements and the combinations thereof to where they will constantly need to be a staff input that's bounced off of NIST, that's bounced off of TGDC.

And so the technical parts of, if you will, what we're doing here needs to be agile, and there's a way to embrace that and do that. But the guidelines and principles which we call the VVSG proper, again, it's just something that's overarching. I don't see the Commission going away, I don't see the advisory boards going away, I don't see the TGDC going away. And I think we can, because there's really smart people in this room and in other rooms, figure out how to do this in order to provide the best products through the R&D process, the testing process, and get

them out there so that the public can use them and have confidence in their voting systems. And I just believe that the vision that NASED had that we wanted to go down this road is something that we can figure out how to make that work.

MR. YAKI:

And let me just add to that. I -- it -- when you look at -- when you look at the difference between VVSG 1.0 and VVSG 2.0 and you look at the differences in where it's been taken, the security and integrity of voting has become more important than ever. Your role in that has become more important than ever. That role cannot and should not go away because -- whether it's through the grantmaking, whether it's through these rules, whether it's through the fact that you are four people who can come together and talk about these issues as a Federal Commission, that cannot be understated in its importance in the policy debate on these issues.

And part of -- this is me getting on my little soapbox here, but part of, you know, where -- there is so much potential in terms of what the future is for the Election Assistance Commission because of the fact that the world is changing, that technology is changing faster than we can keep up with it, that -- that some people are saying we need to go completely old-school and go back to basically, you know, doing -- doing votes chiseled on rock as a way to prevent votes from being hacked. But these are the kinds of

questions and expertise that you and these boards can bring to bear on one of the most important fundamental debates about how our democracy is going to continue in the future with the world changing the way it is. So, there is -- I don't see -- I agree; there's no reason and no need. In fact, it would be a disservice I think to our democracy if this were to go away and just disappear.

CHAIRWOMAN MCCORMICK:

Would you agree that the requirements are policy of the Election Assistance Commission?

MR. YAKI:

Say -- what?

CHAIRWOMAN MCCORMICK:

Would you agree that the requirements are policy of the EAC?

MR. YAKI:

I think -- I think that -- I think EAC -- if you're asking me -- I may misunderstand.

CHAIRWOMAN MCCORMICK:

So, the requirements themselves, are those -- is that a policy that the EAC is passing, that, you know, if we vote on the requirements, is that policy?

MR. YAKI:

I believe it is.

CHAIRWOMAN MCCORMICK:

Okay.

MR. YAKI:

I believe -- whenever -- whenever you make a decision that says you're choosing between A and B, that's a policy decision. That's fundamental to what you -- to what you do. And that's why it's -- that's why I was saying we all agree it doesn't go away. It's -- it can't go away.

CHAIRWOMAN MCCORMICK:

Would you agree with that, Mr. Goins?

MR. GOINS:

Yes.

CHAIRWOMAN MCCORMICK:

Do you agree with that, Mr. Riddlemoser?

MR. RIDDLEMOSER:

Yes.

CHAIRWOMAN MCCORMICK:

Ms. Brady?

MS. BRADY:

Yes.

CHAIRWOMAN MCCORMICK:

Mr. Palmer, did you have a question you --

COMMISSIONER PALMER:

Yes. You know -- go ahead if somebody else has a question.

CHAIRWOMAN MCCORMICK:

Okay. Mr. Hovland, Mr. Hicks?

COMMISSIONER HICKS:

I just wanted to make sure that folks know that VVSG is not the only thing the EAC is working on --

MR. RIDDLEMOSER:

Right.

MR. YAKI:

Right.

COMMISSIONER HICKS:

-- that we do cybersecurity, voter registration, from voter registration all the way up to election-night reporting. And so I value the questions, but I think of it as there's a ton of other things that we've been doing in the last four years and so forth that is very important, and this is just one of those things as well.

One of the things that I wanted to ask about, being the great State of Tennessee that got \$7.5 million from Congress last year, you had mentioned, Director, that the -- that you're waiting on the development of these guidelines for the purchase of new voting equipment. That doesn't mean that you don't need additional funding. It just means that that money has been allocated already

towards the purchase of that new equipment and that you've done other things with the -- with part of that \$7.5 million, correct?

MR. GOINS:

Yes.

COMMISSIONER HICKS:

All right. So, that -- so I don't want -- one of the aspects that I had been hearing when I was working on the Hill was that we are not going to give more money to the States because they still have money. And my thought is that \$380 million that was given out last year by the Congress and signed by the President has been allocated for the most part towards improving the elections process. But when I travel around to the States, as States have said, that they could use additional funding. And so I'm assuming that that's what you were saying earlier, that you could use additional funding moving forward with elections in 2020, 2022, and beyond.

MR. GOINS:

Yes, let me be clear. I'm not sure we'll be able to wait. I mean, I think we're going to have counties purchase equipment, you know, this year, certainly in 2021. And it's a little concerning frankly -- and I may be in the minority on this -- but, you know, when you start talking about sunset and we purchase something in 2021 and then it's about to be sunset, what does that do for voter confidence? And so I just want to lay that on the table.

I agree with my colleague here. I think to a certain extent the marketplace may take care of it because, what I said earlier, I truly believe the latest and greatest is what everyone wants, but at some point not everyone's got the latest and greatest. And if they purchased it in 2021 and suddenly it's outdated and the voter hears I'm voting on technology that's been sunset, then that can be a real concern for us, so I do want to make that point.

You know, I do believe that we'll have some counties purchase. We're just in a situation where the lifespan of the equipment we have to purchase. We have no other way to go about it.

Specifically with the most recent grant, we -- not only are we using it to supplement some purchases, some machine purchases, but we are also doing cybersecurity scans and doing some other things, so we're not just spending that -- those funds on voting systems.

We are fortunate in -- somewhat in that we've been good stewards of our funds, and we do have some money set aside. However, we don't have enough funds set aside. It is a constant struggle to purchase equipment. But we do -- we do have some money set aside still yet from the original HAVA grants.

COMMISSIONER HICKS:

And the last piece that I wanted to ask about was there's been a lot of talk in the last three or four years on security of elections. That's nothing new. Whether or not that's physical security or now it's more of the cybersecurity issue, but mandated in HAVA is the accessibility piece. And I want to ensure that, as we move forward with the Voluntary Voting System Guidelines 2.0 and beyond, that we continually -- and I believe this is in section 4 or section 6 in the high-level principles -- of ensuring that accessibility still remains a high principle in there and that voting machine manufacturers realize that security and accessibility are not mutually exclusive, that they can be included together.

So, with that, I will yield back any other time.

CHAIRWOMAN MCCORMICK:

Thank you, Commissioner Hicks.

Mr. Hovland?

VICE CHAIR HOVLAND:

Thank you. A couple other questions I had, some of this is a little high-level, but I want to just get back and talk about this particularly for Mr. Goins and Mr. Riddlemoser. It's hard to talk about elections without getting into the issue of federalism.

Obviously, we always try to be sensitive to that, but, you know, I certainly think and have said to my colleagues that I think that the EAC is at its best when we identify areas of our decentralized

system that lend themselves to these economies of scale or where there's an ability to benefit from Federal involvement. I think that -- I think that the VVSG and our Testing and Certification program is absolutely one of those. An election official's job is hard enough without having to have 50 varieties of these, but I just want to establish that you all agree with that?

MR. GOINS:

Well, certainly we do in Tennessee, as evidenced by my prior statements. We certainly have a centralized testing board that has more resources than we had in -- you know, potentially as a -- we could do it as a State. Other States have, but we have just found, as a policy, that the EAC is better suited for that.

But I do want to be very clear. I certainly am a person who supports decentralized elections. I think that what Greg does in Virginia is great. He has some good practices. We'll steal those from him, but I think Tennessee has a lot of good practices as well and, you know, vice versa. I don't want Greg running my election in Tennessee unless he comes here, and I don't want to be running his election in Virginia.

I think that is -- when you talk about cybersecurity, and certainly it's been on the radar in recent years, but I don't want to lose the fact -- the fact it's not something we hadn't been talking about before. I mean, you know, physical security is something

that we've trained on for years. Cybersecurity is something that we have talked about for years. Now it's just becoming more in the public domain, but it's not that we weren't doing those things. So, we do those things. And certainly I think that the EAC has a role to play in the areas where they can come in and then also as a clearinghouse.

MR. RIDDLEMOSER:

The best friend that the State and locals have is when the feds have an idea like you do, Commissioner, that as long as you're thinking about the States and locals as you're doing the things that you need to do to fulfill your charters, then you're doing the right thing. And I would just encourage you to do two things, and one is that -- and you already know this to be true, and we all know it's true is that we look to the Federal Government in certain areas, and the EAC is certainly one of them, as you are -- because of the VVSG and other things like that -- the place that we look to as a metric, as a measurement, as a standard, as a -- whatever you want to call it.

So, we all have to do good work because we know that the State and locals are going to look to the EAC, so whether it's the best practices repository or all the other things that Commissioner Hicks just mentioned ago that are all inside of your charter, the

States -- the States and locals are going to look to you to continue to do good work in those other areas.

And then the other thing I would encourage you to do is that, as you use your broad policymaking authority to make policies, is that you keep in mind that words are important. And what I mean by that is a good example is I am not a fan of specifically listing things that are things. Let's call them what they are. Post-election audits I think ought to be in your policies. Pre-election audits ought to be in your policies. We don't need to put a name on any of those because there are lots of ways to do different things that need to be done. And sometimes we let advocacy groups or whatever take us down a certain road, and words matter. And we may not be able to comply with something that you've told us to do because you've put a label on it as opposed to asking for a capability to exist.

Remembering that the States and locals are going to look to you, be ever mindful of the words that you choose when you put into policies because we're going to run with those. And sometimes we're not going to be able to run very far because we don't like what you've done.

CHAIRWOMAN MCCORMICK:

And I would suggest that's more a comment for Congress than for us. We don't set rules and enforce them, but Congress does, so it is important that they take that into consideration.

Commissioner Palmer, you had another question?

VICE CHAIR HOVLAND:

I actually do.

CHAIRWOMAN MCCORMICK:

Okay.

VICE CHAIR HOVLAND:

I just wanted to follow up on that to say I think that the nature of the Voluntary Voting System Guidelines is that they are voluntary, and so the full value of them is only realized if the States and jurisdictions use them and adopt them. Thank you, Tennessee. But -- and I take it by your commentary earlier that the boards did adopt 2.0 unanimously, that you believe we are headed in the right direction on this process. But I just wanted to sort of ask that again directly. Do you think that this process and -- and the VVSG 2.0 is headed toward a product that States and jurisdictions will want to utilize and will provide them -- will help to modernize election technology and move our -- the infrastructure of our democracy forward?

MR. RIDDLEMOSER:

Commissioner, I believe that once the manufacturers have started making products against 2.0, that the States and localities will want that. So, it's important for us to work through this process so that they may begin to do their R&D and begin manufacturing

against the new standards. And, yes, I believe the States and Federal -- or the States and locals will embrace with open arms what happening now with the VVSG 2.0.

MR. GOINS:

I'm pleased up until this point, but it's a dangerous road to go and say going forward we're going to be pleased. I mean, 90 percent I'm told of the requirements are done, and once you look at those requirements and that's -- that's when you'll know if this is what your State will be utilizing. It's a very good point. If you do requirements and a vendor can't make them, it does no good, and so that's another thing you've got to dive down to. Is it a situation the vendors can't meet their requirements or is it a situation that the vendors don't want to meet their requirements? And so that -- that is getting down into the details and looking at the requirements and trying to make that decision. But I can share with you up until this point, including the action that you all took at your February meeting, I am pleased.

VICE CHAIR HOVLAND:

And I guess in this conversation earlier about what the process looks like going forward, I feel like I heard sort of two things. One is obviously -- obviously, there's a desire for responsiveness and our ability -- the VVSG and its parts and testing and certification to be able to be responsive. And so I

definitely heard one point, which was that is part of the structure and why the requirements have been taken out. But then obviously there's a separate conversation about how you update that and people's roles moving forward. And I guess I'm hoping you could either comment on that or -- or I guess what I look at or what I feel like I hear you saying particularly, Mr. Riddlemoser, it sounded like you might have been talking about this on -- for example, there are references to external technical standards, minor pieces. I mean, is it your thought that those would be able to be updated very easily and sort of without any controversy but then maybe the more difficult or challenging issues would be structured in a way either if it was an appeal or something of that nature?

MR. RIDDLEMOSER:

Commissioner, the way you just described it is the way I envision it, and I would hope that as the EAC actually puts all the pieces together, that that is the road that you go down. And I think that the way you would have either in the front piece or the end piece if you will the requirement document is the way that manufacturers, advocacy groups, State or locals or whatever that want to influence any amendment if you will to the requirements once they're adopted, that there would be in that front piece a how-to guide for petitioning if you will the EAC.

And the staff would make an original look at it, maybe talk to NIST about it, talk to the testing labs about it, and then, like I say, hopefully we would be in this commendation loop where you would commend things before changing the policy based on a petition of an advocacy group or a vendor to make a change, commend it back to the boards, and we'd have this conversation once a year. And then you would republish if you will the requirements without having to go through the full adoption sequence for the entire product, having only changed a small portion.

VICE CHAIR HOVLAND:

Would that be, though, on sort of every change in your vision or -- I mean, obviously, it's difficult sometimes to determine what is a significant change. But again, I think of -- you know, it has been brought up that there are external technical standards that exist, and those change in other parts of the technical world. And then they get trapped within the current VVSG and are out of date.

MR. RIDDLEMOSER:

Commissioner, again, just as Chairwoman McCormick described it earlier, that the requirements document as a policy document, you would have to, as the policymakers, decide which ones were minor and didn't need to be commended to the boards if you will versus the ones that you would internally change and then notify the boards at our next annual meeting that, you know, these

are the things that we've done over the last year and, by the way, here are some pending amendment requests that are in front of us for your advice and consent kind of thing.

VICE CHAIR HOVLAND:

I guess both as a member of the Standards Board but also a local election official, I mean, when you think about our ability to produce a product that States and localities will want to embrace, I mean, can you comment to a distinction that you see on what allows us to both be responsive in the short term but then, you know, allow for, I guess, those broader issues to be discussed more thoroughly and utilize the process that you all commended earlier about really getting the stakeholder involvement, as has been done in the years leading to this point?

MR. RIDDLEMOSER:

Commissioner, that is a very spot-on question. One of the things that's -- that I've heard in the rumblings is that it's frustrating -- and I'm a member of the TGDC if I didn't mention that earlier -- is that in order for the vendors to make a substantive change, they have to go back through the labs process. And there's a certain amount of that that should certainly happen, but the cost to reenter product, you know, 1.1, now .175 or what have you, to meet the needs of a specific State or locality, they have to look at their ROI if you will for do we want to make a modification to

that 1.0 certified equipment, resubmit it just to meet the needs of -- and I'll say Idaho -- when they may not be -- it may not be something that everybody out there wants to buy?

I -- my vision of VVSG 2.0 is that the space would be far more agile so that if Idaho, in their wanting to build and certify to the VVSG 2.0, would also want to do this and still have Federal blessing if you will just so that they can say that they did within their own State testing paradigm -- and I believe that this envisioned paradigm of requirements and test assertions and test plans all being policy, that you as the decision-makers can be more agile to allow the vendor to meet a specific sales quota for lack of a better word.

And that's exactly the way I think that this battle space ought to work is that California does not need the exact same version of the voting machine that Indiana does, but they both, if they want to certify to 2.0, ought to petition you in one form or fashion in order to do that, and then you have to get with the subject-matter experts to see if that kind of a change is in keeping with the standards where you can make the internal policy decision or whether you want to resubmit it to the boards for advice and consent or what have you.

But I think agility for the vendors to meet individual State and local needs would -- is welcome and I think was envisioned by NASED and others as we brought this paradigm forward.

VICE CHAIR HOVLAND:

Thank you.

CHAIRWOMAN MCCORMICK:

Commissioners, any further questions for this panel?

Thank you very much to all of you. We appreciate your input and your time this afternoon, very informative. Thank you very much.

We have some witnesses who have signed up, and I will call them forward. They can -- there's four of them, so they can take these chairs.

Mr. Edward Perez, Mr. Carlos Ochoa, Mr. Rob Rock, and Ms. Meagan Wolfe, you're each allowed I believe five minutes of testimony. If you could just introduce yourself and give us some background, where you're from before you start. And we'll start here on the left.

MR. PEREZ:

My name is Edward Perez, and I'm here as the Global Director of Technology Development for the OSET Institute. We are a nonpartisan, nonprofit research institution based in Silicon Valley, California.

MS. WOLFE:

Great. And I'm Meagan Wolfe, and I'm the Administrator for the State of Wisconsin Elections Commission and also the Chief Election Official for the State of Wisconsin.

MR. ROCK:

And Rob Rock, Director of Elections for Rhode Island Secretary of State Nellie Gorbea.

CHAIRWOMAN MCCORMICK:

Mr. Ochoa? He signed up, but I guess I don't see him.

Okay. We'll start with Mr. Perez.

MR. PEREZ:

Thank you.

CHAIRWOMAN MCCORMICK:

Five minutes, please.

MR. PEREZ:

Thank you. Chairwoman McCormick, Vice Chair Hovland, Commissioner Hicks, Commissioner Palmer, and members of the Election Assistance Commission, thank you for the opportunity to testify on the important topic of the Voluntary Voting System Guidelines version 2.0. The Nation owes the EAC a debt of gratitude for everything that you do. Thank you.

My name is Edward Perez, and I'm the Global Director of Technology Development for the OSET Institute. We are a 501(c)(3) nonprofit, nonpartisan Silicon Valley-based organization

devoted to election technology research development and education. Prior to joining OSET, I worked in the commercial voting system industry for 15 years with one of the three major vendors, including leadership of a team responsible for writing requirements and achieving Federal certification through the EAC of a voting system platform first as a new system in 2015 and then during my tenure with several additional modifications.

Today, I focus on three topics that the OSET Institute has determined to be critical to the assurance that VVSG 2.0 is a success in the facilitation of critical innovations for high-confidence elections. And a more detailed version of these comments are available as written testimony.

The topics I address are, one, ongoing flexibility in our understanding of the term voting system; two, component-level certification and common data standards to support interoperability; and three, enhanced agility in the Federal certification process to meet rapidly changing cybersecurity threats.

The OSET Institute believes that ongoing reassessment of foundational issues like these three, consistent with HAVA, can be addressed at the program-management level through updated EAC manuals for testing and certification and for voting system test laboratories respectively.

One, the definition of voting system: The Help America Vote Act adopted a broad definition of voting system for legislative purposes, encompassing a wide scope of components, functions, practices, and documentation in its description of the term. As a result, past certification campaigns have been focused on total system configurations that include a comprehensive minimum set of end-to-end functions that each vendor must provide. However, we believe that VVSG 2.0 presents opportunities for alternative ways of thinking of a voting system in a manner that could still be consistent with HAVA's definition.

In my professional opinion, few things have been more consequential for innovation and choice or the lack thereof than a total-sum concept of a voting system. The assumption that any manufacturer of a voting system to be certified must be able to provide all components that could potentially fall within HAVA's broad description of a voting system has vastly increased the cost and complexity of development, deployment, and support. As a result, the EAC's implementation of this broad HAVA definition, while well-intentioned, has ironically resulted in a highly concentrated marketplace with high barriers to entry. This in turn reduces competition, increases dependence on vendors, and leaves our elections -- our nation's election officials with fewer

choices, which leads to the second topic, component level certification.

In contrast to the unintended consequences of testing voting system components only as full systems, the OSET Institute believes that component-level certification, in conjunction with the VVSG 2.0 requirements to support NIST common data formats for interoperability, could introduce greater diversity and agility in the voting system marketplace, both of which are essential in a rapidly changing threat environment.

By component-level certification, OSET means the ability for manufacturers to develop, test, and seek certification for individual portions of a voting system rather than being required to submit only entire systems for certification. This approach has the potential for a more diverse group of technology providers to develop systems in accordance with their greatest strengths, and it also allows finer distinctions between mission-critical voting components such as device configuration, vote casting, and vote capture versus less-security-centric applications such as election data management and ballot design. This approach is advantageous to traditional voting system manufacturers and new market entrants alike.

My third and final point, the cyber threat landscape: The third and final point I want to address is the imperative reason why

any evolving understanding of voting systems, as well as component-level certification, are so valuable and indeed essential. Our national security depends on the agility that these programmatic changes can help to deliver.

The cyber threat landscape is rapidly changing. For example, zero-day vulnerabilities are an increasing occurrence. Therefore, in the future it will be imperative that the VVSG 2.0 Federal certification program support rapid changes to voting technology at a pace faster than the last two decades have experienced.

As technology advances, so too do the cyber warfare tools with which our adversaries seek to undermine our democracy and diminish the public's faith in election outcomes. Under these conditions, focusing on cybersecurity requirements for individual components is a far more tractable problem that can be worked on much more quickly by a wider array of security experts with faster results, as compared to the task of creating end-to-end security for an entire system of systems in 2019 or 2020.

In closing, the OSET Institute believes that the VVSG 2.0 and the EAC Federal certification program must support agile updates and upgrades to our election infrastructure to afford it the verifiability, accuracy, security, and transparency essential to free and fair elections, elections where ballots are counted as cast, and

where confidence in the outcomes is high. To this end, we greatly appreciate the EAC's leadership in ensuring the security, usability, accessibility, and sustainability of voting technology.

Thank you for your time, and I'll be happy to answer any questions you may have.

CHAIRWOMAN MCCORMICK:

Thank you, Mr. Perez.

Commissioners, anyone have questions for Mr. Perez?

Okay, hearing none --

COMMISSIONER PALMER:

Yes.

CHAIRWOMAN MCCORMICK:

You have one?

COMMISSIONER PALMER:

Yes.

CHAIRWOMAN MCCORMICK:

Commissioner Palmer.

COMMISSIONER PALMER:

So, you had a chance -- how would you -- how would you

frame component testing within the existing structure of HAVA?

How -- what would that look like?

MR. PEREZ:

The first step is --

COMMISSIONER PALMER:

And you mentioned it for security reasons, which is -- I think was very important, but go ahead.

MR. PEREZ:

Security is only one of them. It's certainly one where we are motivated by a very important outcome that is changing rapidly. Again, component-level testing I think has a lot of advantages as well. Another good example might be a ballot design software layout tool. The type of skills that are required in terms of graphic design usability that such a technology provider might want to bring to the market are very different than the skills that cybersecurity people that are working on a tabulation subsystem might bring. So, it's -- that's what I meant when I was discussing that more providers could develop things in accordance with their own specialization.

I believe that ultimately a component-level certification regime is going to rest heavily on the decisions that the States want to make. And one of the things that I think is actually a benefit of that is that the States are already trying to find their own ways to assess the value of the testing, where is it most important, where are the places that they're willing to be more creative. Those types of flexible efforts are going to continue to be the case in the future, irrespective of what VVSG 2.0 does and doesn't change.

I think that if the EAC has individual components -- and it's a question of extracting the functional requirements out of the work that's already been done and applying them to the individual components. I think that can be a solid foundation you all could be doing.

CHAIRWOMAN MCCORMICK:

Any other questions?

Commissioner Hicks.

COMMISSIONER HICKS:

Thank you for your testimony, Mr. Perez. In your first point of companies having a hard time getting into this marketplace where 80 percent of the market is controlled by two companies, I wanted to get your thoughts on the recent announcement that DARPA was getting into making a system, and then the other piece of it as I believe the system that was used up in New Hampshire, the Prime III system that was developed, what -- using an EAC grant, what are your thoughts on those two --

MR. PEREZ:

So, specifically with respect to the recent DARPA efforts, one of the things that the OSET Institute welcomes and that we think can be a very complementary with a market-driven system in this way, we think that there is tremendous value in an agency like DARPA, with the support of the Federal Government, in treating

this as highest-level critical democracy infrastructure. And when DARPA does the sort of work that it's doing with hardware and software integrity in an integrated way, that actually assists critical infrastructure across the board. The reason we think that's very valuable is those technology advancements can nevertheless be commercialized by private voting system vendors in exactly the same way that the Internet, for example, which began as a massive public technology project, it was eventually commercialized, and it is the vendors that exist today that have deep experience in what the end user needs, what are the business logic of elections, and what's the best way to make it usable for election officials. So, we think those can be very complementary.

CHAIRWOMAN MCCORMICK:

Any other questions?

Commissioner Hovland.

VICE CHAIR HOVLAND:

Back on the component-testing issue, would you make a distinction or do you think it -- I guess would you comment if you make a distinction between either the system allowing for individual component testing or if a jurisdiction brings a full system that has interoperability so that it can be made up of different components?

MR. PEREZ:

To be clear, my answer is entertaining both of those scenarios. Again, I think that's one of the values of the flexibility. Component-level -- component-level testing can be additive to the current understanding of voting systems as total systems, so traditional manufacturers could continue to bring entire systems in the way that they still are. If they are required -- and we believe they should be -- to support the NIST common data formats, you are introducing tremendous flexibility. And, frankly, that's also good for their return on investment because it opens new opportunities for flexibility in the future so they could continue doing entire systems, they could do only component-level changes in a way that might be very targeted, for example, to specific State needs, or, again, you could have new market entrants that are not even traditional voting system manufacturers that have a specialization in an area that has value. And so viewed in a complementary way, I think it can cover many of those scenarios.

VICE CHAIR HOVLAND:

Thank you.

CHAIRWOMAN MCCORMICK:

Any further questions, Commissioners? No?

Thank you, Mr. Perez. We appreciate your comments today.

MR. PEREZ:

Thank you.

CHAIRWOMAN MCCORMICK:

Thank you very much.

Ms. Wolfe?

MS. WOLFE:

Thank you. And thank you, Commissioners, and staff of the EAC, for hosting this meeting and for welcoming input from state and local election officials on the Voluntary Voting Systems Guidelines. Your willingness to receive input at this critical juncture is vital to the long-term success of the standards and certification process.

I'm Meagan Wolfe, and it's my honor to serve as the Administrator for the State of Wisconsin Elections Commission and as the Chief Election Official for the State of Wisconsin.

Under the current EAC standards, voting systems cannot be updated quickly when they are patched, modernized, or otherwise changed. I ask you to consider state and local election officials' need to ensure that lack of quorum or ideological deadlock amongst to the EAC Commissioners does not affect our ability to provide our voters with modern, secure, and usable voting equipment.

For many years, the Wisconsin election agencies could not approve voting systems that did not meet EAC certification standards. Then, local election officials strong desire to purchase

new voting systems with modern features spurred a change in our process and ultimately in our law. Local election officials experienced delays in the EAC process and found that standards did not adequately reflect the requirements needed to ensure security in modern voting technology.

Therefore, in 2015 a law was passed to eliminate the requirement that all voting systems approved for use in Wisconsin be accredited by the EAC in giving the State the ability to approve systems outside of the EAC process. However, local election officials and state officials are still very hesitant to pursue equipment that has not been certified by the EAC or without modern VVSG standards to guide our certification process. We believe that the EAC certification and standards should be a foundation on top of which our state standards are built and not an outdated roadblock that we needed to circumvent.

Election technology and security are dynamic. Standards that drive the development of election technology also need to be dynamic in order to keep pace. The tools we use to protect elections today are not the same tools that will be needed to protect elections tomorrow. Standards for our voting equipment are just one of the many tools we rely on as election officials. We must ensure that the principles and guidelines in place today are flexible enough to address current and future threats.

As a first step, I urge the Commission to affirmatively vote to adopt the VVSG 2.0 principles and guidelines. This will solidify a vital tool for election officials to rely on as we undertake the important work of modernizing and updating our voting systems.

I further urge you to plan for and allow for quick changes that may be needed. This can be accomplished by allowing the EAC Testing and Certification staff the authority to approve their requirements and test assertions independent of the Commission.

You can also further prepare the VVSG for the future by including a mechanism for approval absent of a quorum or in the case of a deadlock of the Commission.

Unfortunately, election security needs do not evolve on an ideal timeline, nor do they evolve under ideal circumstances. Contingency planning is essential in elections. As election officials, we never want to have to use our contingencies, but we must prepare strong contingencies in order to ensure strong elections. The VVSG should be held to the same standard. Let's work towards building resilient standards that will support election security even under less-than-ideal circumstances.

By adopting the recommendations of the Technical Guidelines Development Committee, the Standards Board, and the Board of Advisors, the EAC helps to ensure election officials have

the tools that we need to address evolving changes that we may face.

Thank you again for the opportunity to speak with you. I appreciate your willingness to collect feedback and work towards the development of the best possible standards to help us accomplish our shared goal of administering secure, fair, and transparent elections.

CHAIRWOMAN MCCORMICK:

Thank you, Ms. Wolfe.

Any questions, Commissioners? Questions, no?

Commissioner Hovland?

VICE CHAIR HOVLAND:

In your commentary I guess I just wanted to clarify in your testimony you talked about patch and upgrade speed, and I know that we've -- you also mentioned the quorum issue, and then I guess in the three bullet points for us to move forward it was more about staff procedures. But I think historically we've heard issues around the quorum but then also sometimes in the modification procedures in the Testing and Certification program. So, would you comment, is the focus more on quorum or absence thereof or deadlock issues or I guess both?

MS. WOLFE:

I would say both. I think, you know, we need to overall have a strategy that allows us to adapt to changes. We really don't know what our needs are going to be in the future, and so I think that we need to have standards in place that allow us to be flexible from both angles.

VICE CHAIR HOVLAND:

And based sort of on the previous panel and that conversation, do you envision or are you advocating for I guess a definitive plan that gets to an answer no matter what or something that has an appeal structure or do you distinguish between I guess the external technical guideline issues that need to be potentially updated or changed versus maybe larger broad-scale issues?

MS. WOLFE:

Sure. I think it would be useful from our perspective to have the requirements as a separate piece that has the ability to be a little more agile. I think, as I referenced, for us I think an ideal circumstance is of course that, you know, the Commission would be able to approve changes in a timely manner and that we could use that as a foundation to build our state standards on top of that. I think that's the ideal standard for all of us.

But I think that, you know, we've seen cases where that's not available to us, and so now we have to work around that. And so that's kind of been the world that we've been in since 2015.

VICE CHAIR HOVLAND:

Thank you.

CHAIRWOMAN MCCORMICK:

Any other questions? Commissioner Hicks?

COMMISSIONER HICKS:

Thank. you for your testimony, Ms. Wolfe.

The -- I think the Bipartisan Policy Commission had a member there who had talked about the EAC being without quorum longer than it's had a quorum. But I also wanted to say that it's -- you're -- you've raised important points, but I think that it's something that we -- that's beyond our control with that -- that issue. But I would say that the process has gone better. It can be improved.

From our one and only Testing and Certification Director who just recently retired, Brian Hancock had mentioned how it would take a few months to get a modification done to a voting system. Now, it's reduced down to a few weeks to a month. And I think of that as innovation and moving forward with issues. But I think that with the new guidelines it set forth that we should be able to move even quicker and more nimble on some issues of certification, of modifications on voting equipment. For instance, in our new environment of cybersecurity, if a patch needs to be made quickly, it needs to be done, you know, yesterday as opposed to

five weeks from now, to ensure that those things can be done to have the protection of our voting systems.

So, I hear what you're saying, and I think that there are things that me and my fellow Commissioners can discuss in moving forward, and I, you know, value your testimony. And it's not really -- you know, if there's other issues that we can be working on to move this forward because I believe that Wisconsin has 1,583 --

MS. WOLFE:

Eighteen hundred and fifty-three.

COMMISSIONER HICKS:

Eighteen hundred and fifty-three separate jurisdictions -- I know, my dyslexia kicking in.

[Laughter]

COMMISSIONER HICKS:

So, I understand that, and I know that, you know, with a State like Wisconsin that you're not going to get uniformity on an issue. But for them to come out and say that we still want to have EAC input on our voting system speaks a lot to the importance of the agency. So, we will -- we've heard you, and we will take that back. Thank you.

CHAIRWOMAN MCCORMICK:

I'll ask the same question I asked the last panel. Are the requirements for the voting systems a policy?

MS. WOLFE:

I don't know that I'm in a position to answer that in terms of how policy is defined. And I guess I'm not sure from your perspective what is the importance of making that sort of definition?

CHAIRWOMAN MCCORMICK:

Fair enough. Thank you very much.

Mr. Rock?

MR. ROCK:

Good afternoon, Madam Chair and EAC Commissioners. My name is Rob Rock, Director of Elections for Rhode Island Secretary of State Nellie Gorbea. And thank you for the opportunity to present comments on behalf of Secretary Gorbea regarding an important issue facing the EAC.

First, I'd like to acknowledge the hard work and dedication of those who helped craft the VVSG version 2.0 to those state and local election officials, technology and accessibility experts, voting system vendors, and Federal partners, including representatives from NIST and EAC itself. Thank you for your hard work and dedication.

The principles and guidelines of the VVSG 2.0 are an important part of ensuring that our nation's voting systems are properly tested and certified. I believe these principles and guidelines should require an affirmative vote of the EAC

Commissioners to be adopted. However, the requirements and test assurance of the systems should be a responsibility of the EAC Testing and Certification staff or, at the very least, there should be a mechanism by which future iterations of the VVSG can move forward in the absence of a quorum or in the case of a deadlock vote by the Commission. This would ensure that our future voting systems receive proper vetting before being released.

It is imperative that we have a testing and certification process that can respond to an ever-evolving technology and cybersecurity environment so voters can have faith in the integrity of our election systems. Rhode Island continuously states publicly have vital the EAC is to state and local election officials. The EAC provided invaluable assistance with Rhode Island's procurement of voting equipment and e-poll books. The staff provides helpful and timely expertise, and your website is an incredible source of information to States as we strive to stay up-to-date with a consistently evolving technology landscape.

On behalf of Secretary Gorbea, I urge you to continue your strong track record of being an elections partner by allowing the VVSG to move forward, as recommended by the TGDC and the Standards Board and the Board of Advisors. Thank you.

CHAIRWOMAN MCCORMICK:

Commissioners, any questions?

Mr. Hicks?

COMMISSIONER HICKS:

Thank you, Director Rock. Again, thank you for your testimony and some of the great things that the State is doing in terms of postelection audits moving forward with that.

I do have a question on when you mentioned a non-vote and a deadlock vote because to me a deadlock vote is basically the Commission speaking on an issue. So, can you maybe elaborate a little bit more on what you might feel is the difference between those two?

MR. ROCK:

Well, I just -- my point is that -- to make sure that no matter what the issue is, that we can move forward in the case that the VVSGs need to be updated, whether it's a lack of quorum. I just want to make sure -- in Rhode Island we don't have a state certification process. We rely solely on the EAC, so we just want to make sure that the next time we purchase equipment -- and we just purchased equipment in 2016 -- that we're able to bump it up against the most current VVSGs, so whatever -- I just wanted to make the point that we need a mechanism in place in case there's the inability to move forward on a vote from the Commission.

CHAIRWOMAN MCCORMICK:

So, just following on that, you know, Congress has set up a process for us to deal with these things. If we deadlock on something, we're following congressional -- congressional statute. Are you asking us to set aside the congressional statute so we can be able to move forward?

MR. ROCK:

No, I'm just asking that we at least think about a way to be able to move forward in the case of an issue where we are unable to have a Commission vote on the VVSG. And perhaps my wording wasn't the best. I just want to make sure that we have a mechanism in place in Rhode Island because, again, we focus solely on the EAC's testing and certification. We don't have a separate state certification process.

CHAIRWOMAN MCCORMICK:

Commissioner Palmer?

COMMISSIONER PALMER:

Yes, I just have one question, one clarification. So, your testimony today is that if there was a deadlock of this Commission on certain requirements which may involve accessibility, for example, that a staff member of the EAC should just make that decision?

MR. ROCK:

Or just a mechanism in place is all I'm asking, whether it's a staff or some sort of other -- I know there was an appeal process talked about on the last panel, just something in place that we're able to move forward in the case that the Commission is unable to vote.

CHAIRWOMAN MCCORMICK:

Other questions? Thank you to all of you.

COMMISSIONER HICKS:

Just a comment.

CHAIRWOMAN MCCORMICK:

Oh, you have a comment? Commissioner Hicks.

COMMISSIONER HICKS:

Maybe I shouldn't make it, but --

[Laughter]

COMMISSIONER HICKS:

No, I'm not going to make it.

[Laughter]

CHAIRWOMAN MCCORMICK:

Thank you very much for each of your testimonies. We appreciate your time today.

MS. WOLFE:

Thank you.

CHAIRWOMAN MCCORMICK:

With that, we urge other members of the public to utilize the public comment process to make further comments to the VVSG 2.0 principles and guidelines document that is out for public comment right now, and that's open until May 29th.

So, can I have a motion to adjourn?

COMMISSIONER PALMER:

Motion to adjourn.

VICE CHAIR HOVLAND:

Second.

CHAIRWOMAN MCCORMICK:

Adjourned.

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[The Public Meeting of the United States Election Assistance Commission adjourned at 3:31 p.m.]

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