

United States Election Assistance Commission

Meeting to Vote on Adoption of VVSG 2.0

Held at

11:00 a.m. EST

Wednesday, February 10, 2021

Via Zoom Meeting

VERBATIM TRANSCRIPT

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The following is the verbatim transcript of the United States Election Assistance Commission (EAC) meeting that was held on Wednesday, February 10, 2021. The meeting convened at 11:00 a.m. and adjourned at 12:16 p.m.

CHAIRMAN HOVLAND:

Good morning. I'm U.S. Election Assistance Commission Chairman Ben Hovland, and I'm calling this public meeting on the Voluntary Voting System Guidelines 2.0 to order. For the first order of business, I will call the roll and establish a quorum.

Vice Chair Palmer?

VICE CHAIR PALMER:

Present.

CHAIRMAN HOVLAND:

Commissioner Hicks?

COMMISSIONER HICKS:

Present.

CHAIRMAN HOVLAND:

Commissioner McCormick?

COMMISSIONER MCCORMICK:

Present.

CHAIRMAN HOVLAND:

All Commissioners are present, and we have a quorum.

Can we please have today's agenda shown on the screen?

Great. I'll now take a motion to approve the agenda, as submitted.

COMMISSIONER MCCORMICK:

I move to approve --

COMMISSIONER HICKS:

I move --

COMMISSIONER MCCORMICK:

I second.

CHAIRMAN HOVLAND:

It has been moved and seconded properly. All in favor, say

aye.

[Chorus of ayes]

CHAIRMAN HOVLAND:

Opposed?

[No response]

CHAIRMAN HOVLAND:

Hearing none, today's agenda has -- as submitted has been approved.

Next up, unless there are any corrections to the previously distributed minutes, I will now take a motion to adopt minutes from the October 20th, 2020, election night reporting roundtable for -- or the election virtual roundtable discussion that we had.

VICE CHAIR PALMER:

Move to adopt the minutes.

COMMISSIONER MCCORMICK:

I second.

COMMISSIONER HICKS:

I second it.

CHAIRMAN HOVLAND:

Great. It's been properly moved and seconded to adopt the minutes from the October 20th, 2020, roundtable. All in favor, say aye.

[Chorus of ayes]

CHAIRMAN HOVLAND:

Opposed?

[No response]

CHAIRMAN HOVLAND:

Hearing none, the minutes from the October 2020 -- October 20th, 2020, roundtable have been adopted. Excellent.

So I'd like to say thank you to everyone who's joined us for today's virtual meeting. These are still not ideal conditions, but we're thankful that you can join us virtually.

The development and passage of each iteration of the Voluntary Voting System Guidelines, or VVSG, is among the most important tasks that Congress entrusted to the EAC with the passage of the Help America Vote Act. We take this responsibility seriously, and I'm pleased we are taking the next step to continue this critical process today.

The VVSG 2.0 is a major step forward to ensure the next generation of voting equipment is more secure and accessible and ensures a better voting experience for all Americans. Election security has been a major topic and focus during these efforts, and I'm proud that the VVSG 2.0 includes provisions to ensure that we will have more paper ballots and built-in support for election officials to conduct more efficient postelection audits. Every security expert I've heard from insists that paper ballots and audits provide a confidence in the integrity of the system like nothing else. This VVSG provides for more paper ballots and audits than we've ever had before. These gains, along with the many other benefits to security, usability, and accessibility that come with a 15-year technological leap forward, are all part of what makes this update so critical.

There has been a lot of interest throughout the process of refining the VVSG and getting us to this point. We did not get here alone. We appreciate everyone who has been a part of the discussions, submitted comments, and given other feedback. I've had the honor of being the Designated Federal Officer for the Technical Guidelines Development Committee, and I'd like to thank TGDC Chair Doctor Walter Copan, Director of the National Institutes -- National Institute of Standards and Technology, and his

team at NIST for all of their work and all of the members on the TGDC who have been critical to getting us to this point.

The input throughout this process and the recommendations from all of our boards are critical. During this meeting, we're going to hear from EAC Executive Director Mona Harrington on the work that was done and the recommendation that is before us today.

Before we get to that portion, I'd like to ask my fellow

Commissioners to give some brief remarks. Vice Chairman

Palmer?

VICE CHAIR PALMER:

Thank you, Chairman Hovland, and thank you to everyone who has contributed to this process over the years and those who are watching virtually today, election officials from across the country, our Federal partners, and the professional EAC staff.

I am looking forward to Executive Director Harrington's presentation today and her recommendations and comments. As the Designated Federal Officer of the Standards Board, I'd like to personally thank the 110 members that represent every State and territory. Our last meeting was unfortunately not in person, but I'm glad that we were able to hold that meeting. And of course, we've been discussing this over the years in person at various Standards Board meetings.

During the last meeting, the Standards Board voted to approve draft VVSG with requirements, which is one of the many steps taken over the last year to get up to the vote today. Thank you to all the members and a special thank you to the former Chair of the Standards Board, Brad King from the great State of Indiana, who presided over the Board in 2020.

I'd like to thank my fellow Commissioners and the professional staff, the EAC, for working together in a concerted and focused effort to finalize these requirements and lay out the foundation for a new era of the Election Assistance Commission and a new generation of voting systems in America.

I believe the VVSG 2.0 represents a significant leap forward in each State's ability to modernize their own standards and acquire new voting systems with the latest technology to ensure the most secure, transparent, and accurate elections possible. Thank you, Mr. Chair, for the opportunity to speak.

CHAIRMAN HOVLAND:

Thank you, Vice Chair Palmer.

Commissioner Hicks.

COMMISSIONER HICKS:

Thank you, Chairman.

I appreciate the leadership of the boards, NIST, the DFOs, and my fellow Commissioners, along with Executive Director

Harrington, in getting us to this point. I'm pleased we're in a position to vote on a proposal today. This version reflects the push and pull of various policy considerations, but ultimately represents reasonable compromise, again, but ultimately represents reasonable compromise that puts the agency in a good position, allows manufacturers to build to the requirements, and gives guidance to the labs to test and certify these machines, and positions the EAC for considering enhancements in the future.

As I mentioned, we would not be here today without the hard work of everyone involved. I look forward to the presentation and the planned vote of the VVSG. Thank you, and I yield back.

CHAIRMAN HOVLAND:

Thank you, Commissioner Hicks.

Commissioner McCormick?

COMMISSIONER HICKS:

Thank you, Mr. Chairman. I want to echo my fellow Commissioners' appreciation for the work of our boards, for NIST, and for Director Harrington and the EAC staff.

In addition to their comments and recommendations, as a matter of policy per HAVA, the guidelines and requirements were posted for public comment, and during that public comment period we received 77 sets of comments from 71 commenters and a total of 1,659 comments on the proposed requirements. Feedback from

the public and stakeholders received during this period was considered throughout the process. Members of the public were also able to present testimony during the hearings held earlier this year. All of this input and feedback is a valuable part of the process.

The VVSG requirements is a complex document, and those who submitted comments and considered the content of the VVSG took time and gave careful consideration to what they sent, and we have given their comments careful consideration as well.

This has been a transparent process, and it is a process the EAC and our partners take very seriously. I appreciate the effort that went into the work over the last year and the years preceding it, and I'm looking forward to this vote today and the work required to fulfill the next step in the process.

Thank you, Mr. Chair, for giving me the opportunity to make some comments before we talk about this.

CHAIRMAN HOVLAND:

Thank you, Commissioner McCormick.

At this time I'd like to introduce EAC Executive Director Mona Harrington, who will be giving a brief presentation of VVSG

2.0. Director Harrington?

MS. HARRINGTON:

Thank you, Chairman. Good morning, Commissioners.
Allow me a moment to share my screen. I apologize. Give me a moment. There's something a little bit wonky going on here. Can you see my screen?

COMMISSIONER HICKS:

Yes.

CHAIRMAN HOVLAND:

Yes.

MS. HARRINGTON:

And --

CHAIRMAN HOVLAND:

We do have the whole screen. I don't know if you want to move into slideshow.

MS. HARRINGTON:

Yeah, there's something -- can you give me a moment, please? I apologize.

MALE SPEAKER:

I think if you go up to display settings, you might be able to change it to the correct presentation mode.

MS. HARRINGTON:

That's what I'm trying to do. It doesn't seem to be giving me the --

MALE SPEAKER:

So at the top there's display settings next to show taskbar, if you click that.

MS. HARRINGTON:

Menu option -- oh, I see what's going on here. Okay. Give me one moment.

MALE SPEAKER:

That looks good.

MS. HARRINGTON:

All right. I am having a problem not seeing my notes. We tested this. I'm not sure what's going on. Give me a second. I apologize. This is -- okay. Let me just try and get started here. Good morning. I apologize for the technical difficulties and the slight delay here.

I'm pleased to be giving you this presentation. We will go over today an overview of changes from VVSG 1.0 to VVSG 2.0 recommendations and next steps. I am going to begin with turning this over to our General Counsel, Kevin Rayburn, to just go through the process required for VVSG adoption.

MR. RAYBURN:

Thank you, Executive Director Harrington. Section 222 of HAVA lays forth the process for adoption, and it says there are essentially four key elements for this to be legally adopted. There needs to be a publication of notice of the proposed guidelines in the

Federal Register. After that is done, there is to be an opportunity for public comment under those proposed guidelines. And there's also to be an opportunity for a public hearing on the record, of which there were several, as Executive Director Harrington will show in her timeline, the various events that occurred to meet these. And then finally, once this body today has adopted modifications of VVSG, they are to be published as final guidelines in the Federal Register.

Throughout this process, the various advisory boards, such as our Advisory Board and our board -- our Standards Board, they are given an opportunity to review guidelines that were proposed and give comments, and we are to consider those comments, but we are not bound by any of the comments or recommendations.

So that is the process set forth in Section 222 of HAVA, and I'll turn it back over to Ms. Harrington.

MS. HARRINGTON:

Thank you, Mr. Rayburn.

So this slide talks about the establishment of the VVSG. Section 301(a) allows the voter to review selections before casting a ballot, allows the voter to change selections before casting a final vote, notify the voter when more selections are made than permitted, provide for the production of a permanent paper record suitable to be used in a manual recount, provide voters with

disabilities the same opportunity for access and participation, including privacy and independence, provide accessibility in minority languages for voters with limited English proficiency, as required by Section 203 of the Voting Rights Act of 1965, and provide for an error rate in operating the voting system that is no greater than the error rate set forth in the 2002 voting system standards 2002 VSS.

Next slide, a little bit on the background, VVSG 1.0, this was the third iteration of standards for voting systems, first was developed in 1990 by the Federal Election Commission, FEC, and they were updated in 2002, 2002 VSS adopted on December 13th, 2005. Manufacturers could still be tested under the 2002 VSS until it was sunsetted in December of 2007. VVSG 1.1, work began in 2009 but then was halted after the initial 120-day public comment period in order to review additional best practices, experienced anomalies in the field, and deficiencies with voting systems entering the program. I believe the requirements that were commented on what -- is what now is referred to as the draft VVSG 2007.

Another 130-day public comment period was completed in January of 2013. The VVSG 1.1 was adopted on March 31st, 2015. It was smaller in scope than the originally envisioned update draft, VVSG 2007, and many of the original 2007 requirements

have made it into the 2.0, hence the incremental version numbering.

July 2015, the TGDC reconstituted to being development of VVSG 2.0. The original plan was to develop high-level principles and guidelines that would go through the statutory HAVA-mandated process and a set of requirements that would go through a separate and non-statutory process that would mirror the HAVA process.

November 2015, NIST and the EAC launched public working groups for the development of the VVSG to allow for public input during the development of the VVSG. Groups included human factors, cybersecurity, interoperability, testing, as well as pre-election, election, and postelection processes. Members of the public, academia, VSTLs, and manufacturers were invited to participate.

In February of 2016, TGDC meeting on creation of new VVSG principles and guidelines.

In July of 2016, there was -- public working groups began meeting biweekly and were led by NIST.

February 2017, the public comment period on principles and guidelines opened up.

In June of 2017, we had a public comment period on the principles and guidelines closed.

September of 2017, the TGDC recommended the principles and guidelines.

In April 2018, the Standards Board and Board of Advisors adopted the principles and guidelines.

In September 2019, EAC legal opinion that VVSG 2.0 requirements must also go through the mandated HAVA process, including public comment period, public hearings, and a vote by the Commissioners.

Some of the highlights of the major milestones over the past year I'll just mention here. December of 2019, TGDC meeting to address accessibility and security issues, including wireless provisions in the proposed VVSG 2.0 requirements. Comments from the TGDC were provided about accessibility if wireless was banned and no other substantive comments were made during that meeting.

In February of 2020, the TGDC recommended proposed VVSG 2.0 requirements; March 24th, 2020, draft VVSG requirements submitted for public comments by Regulations.gov; March 27th, the public hearing on VVSG 2.0; May 6th, public hearing on VVSG 2.0, and another one on May 20th; June 2020, the Board of Advisors hosted a meeting to discuss the VVSG; June 22nd, the draft VVSG 2.0 public comment period closed; July 2020, the Standards Board adopted the proposed requirements; and in

January 2021 the Federal Register notice of this hearing and hosting of proposed VVSG 2.0 with redlines was submitted.

We received 1,659 comments from 71 commenters representing the general public, nonprofit organizations, Voting System Test Labs, voting system manufacturers, and others. EAC and NIST staff met twice weekly from the close of the public comment period through October to review each comment. Of the comments received, 66 percent were accepted, 16 percent were rejected, 18 percent were marked as noted. The accepted comments provided recommended changes that were agreed to by the comment review group consisting of NIST and EAC staff. The rejected comments represent comments that were either not deemed relevant or were not accepted by the review of the group for various reasons. Noted comments represent comments that did not provide suggestions or more general in nature.

Most comments, about 21 percent, were rejected on the glossary followed closely by Principle 1, 18 percent and comments of general nature, about 10 percent, 46 percent of the comments were made by voting system manufacturers, followed by 30 percent from nonprofit organizations, 14 percent from election officials, 6 percent from VSTLs, and 4 percent from other private citizens. Most comments were addressing ambiguity, seeking clarification, or providing corrections to terminology or grammatical errors.

The requirements that generated the most comments were 5.1-F, accessibility documentation. Commenters from disability advocacy groups stated that all voters should use the same ballot-marking interface.

6.2-A, voter independence, commenters from disability advocacy groups stated that accessible marking, verification, and casting be available.

14.2-C, D in the original draft, wireless communication restrictions, most comments stated that wireless be prohibited, mostly from nonprofit groups.

Before we move on, I really would like to take a moment to acknowledge the contributions of our key stakeholders and the countless hours they put in supporting the process, and that includes election officials, NIST and EAC staff, both past and present, members of the public, academia, our advisory boards, TGDC, Board of Advisors, Standards Board, our test labs and manufacturers, and of course all the support from the Commissioners.

I'm asking the Commissioners to vote on the adoption of VVSG 2.0, Principles and Guidelines and Requirements. Additionally, I'm asking you to vote on the adoption of the Testing and Certification Program Manual and VSTL Manual today.

I'll now provide you with more detail on the process and the VVSG documents themselves. These four documents lay the foundation for implementing a next-generation Testing and Certification Program that will help bring our voting systems into the 21st century.

Why is the VVSG important? It enhances the accessibility, security, and interoperability of the voting systems and provides a pathway toward an innovative class of voting devices and end-to-end verifiable systems, and it creates a more agile framework moving forward.

The scope of the VVSG is covered here. We've mentioned a lot of the items listed in Section 301. The voting system is defined by the VVSG 2.0, the equipment, including hardware, firmware, and software, materials, and the documentation used to enact the functions of an election.

The HAVA definition, the total combination of mechanical, electromechanical, or electronic equipment, including software, firmware, and documentation required to program, control, and support the equipment that is used to define ballots, cast and count votes, report or display election results, and maintain or produce any audit trail information.

VVSG 2.0 covers voting systems that produce and process ballots for in-person or mail-in voting. It does not cover mail-in

voting processes and procedures outside of the election office such as mail handling, envelope design, signature verification, et cetera, remote ballot delivery, marking that depend on public networks, election night reporting systems that depend on public networks, and other nonvoting technologies such as e-pollbooks, ballot on-demand, or voter registration systems.

The organization of the VVSG is substantially different than previous versions of the standards, which were organized by functional areas such as accessibility, usability, security.

Everything is arranged in a hierarchical fashion. The principles contain guidelines, guidelines contain requirements, requirements have test assertions. There are 15 principles and 53 guidelines. The high-level principles are high-quality design; high-quality implementation; transparent; interoperable; equivalent and consistent voter access; voter privacy; marked, verified, and cast as intended; robust, safe, usable, and accessible; auditable; ballot secrecy; access control; physical security; data protection; system integrity, detection, and monitoring.

The requirements are organized and numbered according to the principles and guidelines they are most applicable to. They have the following fields: number and title of each requirement; text of each requirement; optional information discussion field that provides background, examples, references to external standards;

optional information field for applicability of the requirement; and other optional information may include related requirements within the VVSG.

We have added new conformance language in the VVSG 2.0. "Must" indicates a mandatory requirement. "Must not" also indicates a mandatory requirement, but the requirement is not to do something, and "may" indicates an optional permissible action and often suggests one possible way of conforming.

This is an infographic of the distribution of requirements. I just want to break this down for you real quick. Principle 1, high-quality design, 23 percent; Principle 2, high-quality implementation, 13 percent; transparent, 16 percent; interoperable, 2 percent; equivalent and consistent voter access, 2 percent; voter privacy, 1 percent; marked, verified, and cast as intended, 10 percent; robust, safe, usable, accessible, 3 percent; auditable, 7 percent; ballot secrecy, 3 percent; access control, 6 percent; physical security, 2 percent; data protection, 2 percent; system integrity, 6 percent; detection and monitoring, 4 percent. And this is how basically the high-level requirements are distributed amongst those 15 principles.

Here is another view of some of the ways to categorize the requirements across rough functional areas. It's difficult to

categorize requirements as some apply to more than one area and are not easily definable as specific to the category.

Looking at how the VVSG compares with previous -- oh, I apologize. Looking at how the VVSG compares with previous versions, the blue here are the requirements, the orange are the sub-requirements, and the VVSG 2.0 turned many previous sub-requirements into requirements. So I'm showing both to ensure the apples-to-apples comparison here. There are functional and documentation requirements from Volume 1 and Volume 2 of the 1.0 and 1.1 but not testing requirements included in Volume 2 of both. This keeps things consistent in how VVSG was written, apples to apples again. VVSG 1.0 had 253 requirements, 1,076 sub-requirements. VVSG 1.1 had 254 requirements and 1,315 sub-requirements. And VVSG 2.0, 494 requirements, 535 sub-requirements.

We'll go through the changes now starting with accessibility. VVSG 1.0 already had robust accessibility requirements. They've been improved since then in 2.0 by incorporating a lot of the advancements from 1.1 while tightening up a few areas. VVSG 2.0 allows for systems where all voters can vote privately and independently throughout the voting process, including during marking, verifying, and casting their ballots. The features offered to accessible voters must be consistent with visual functionality,

including the same options and instructions. Blind voters and voters with limited dexterity are able to perform paper-based verification or feed their own optical scan ballots into a scanner if all other voters do so. All voting variations available to visual voters such as voting a straight party ticket and then changing the vote for a single contest must be available to voters using other interaction modes.

Language access: manufacturers are required to test language capabilities with native speakers of the supportive languages. Languages can be switched throughout the session, English to Chinese to Spanish for instance. Accessibility testing documentation must describe disability scenarios they're intended to support.

Voter privacy features, voters must be able to enable and disable audio or visual output throughout the voting session, turn the screen off, turn off audio, et cetera, derived from the Federal laws and guidelines, Section 508, web content and accessibility guidelines and the Voting Rights Act.

The security requirements in 2.0 represent a significant leap forward from VVSG 1.0. Software independence -- software-independent voting system does not rely solely on software. It is independent if an undetected change or error in its software cannot cause an undetectable change or error in an election outcome.

This includes the use of paper ballots or cryptographically verifiable -- in the E2E case -- ballots, as well as improvements to access controls, encryption, physical security, logging, and auditing. Air-gapped and wireless is disallowed. Voting systems are not allowed to connect to networks outside of those required by the voting system. Unused ports and processes must be removed or disabled, including any wireless technology such as a Wi-Fi, Bluetooth, or NFC.

Accessibility is provided for by allowing the use of Bluetooth adapters connected to the voting devices headphone jack, as this does not increase the attack surface of the system, the use of firewalls, intrusion prevention, and other means as recommended in the requirements. Physical security ensures that physical ports are able to be logically disabled, and only ports that are essential to voting operations are exposed; requires that all new connections and disconnections be logged.

Multifactor authentication is now required for all critical operations such as software updates, aggregating and tabulating enabling network functions, changing device dates, opening and closing polls, deleting audit trail artifacts, logs, or modifying authentication mechanisms.

System integrity; requires risk assessment and supply chain risk management strategy, removes nonessential services, exploit

mitigation such as address space layout randomization also referred to ASLR, data execution prevention (DEP), and free of known vulnerabilities, cryptographic boot validation, and authenticated updates.

Data protection requires FIPS 140-2, validated cryptographic modules except E2E, requires cryptographic protection of various election artifacts, and requires digitally signed cast vote records and ballot images.

Interoperability is a brand-new addition to VVSG and didn't exist as a separate concept in previous versions. It attempts to standardize data communications between voting system components or the voting system and outside systems based on defined common data formats. Manufacturers must describe how they implement the format, including any extensions they may add. Requires that encoded data such as barcodes use publicly available methods that are available at no cost either using a published standard or a proprietary standard that the EAC can post on its website. These requirements may enable component testing, as well as discuss when we talk about the updated manuals.

VVSG 2.0 adds a number of additional advancements. Ballot secrecy is now specifically defined as a principle with its own specific requirement such as preventing the association of a voter identity to ballot selections. Auditability has its own principles and

is more robust, focuses on machine support for postelection results, makes software independence mandatory, supports paper-based and end-to-end verifiable systems, supports all types of audits, including risk-limiting audits, compliance audits, and ballot-level audits.

The user-centered design requires that voting systems are developed and implemented using best practices, user-centered design methods that consider a wide range of representative voters, election workers, voters with disabilities. The process must be documented as part of the system's technical data package, the TDP.

In addition, it's reorganized to simplify usage and focus on functional requirements. The previous versions of the VVSG were organized into a Volume 1, Volume 2. Volume 1 included functional requirements for voting systems. Volume 2 included testing standards used by VSTLs, as well as technical documentation package, the TDP requirements for manufacturers. Much of the previous Volume 2 information has been moved to the program manuals, test assertions, or the documentation requirements of VVSG 2.0 found mostly in Principle 3, transparency.

As I mentioned just a moment ago, previous VVSG Volume 2 information has been moved to the manuals. The

Testing and Certification Program Manual now includes a requirement for penetration testing during the test readiness review phase of the voting system certification. The testing is on top of the vulnerability scanning and other security testing that is done throughout the certification process. The testing will be carried out or managed by our accredited VSTLs. It will be required for all new or modified systems for any version of the VVSG once 2.0 is implemented.

A component testing pilot program has also been added. The hope is that the interoperability requirements in VVSG 2.0 will allow new or existing manufacturers to produce best-in-breed components that are interoperable with existing certified voting systems. This could include both currently -- current existing technology such as a precinct scanner or accessible ballot-marking device or new devices that have not previously been available such as independent ballot review stations. Systems that are accepted into the pilot will help the EAC develop a component testing process, and that will become a permanent part of the program.

The manuals have also been updated to improve oversight of EAC-registered manufacturers to include items that were previously issued as notices of clarification and request for interpretation. The manuals include language addressing the resolutions from the EAC boards in Section 8.9.8 to update the

VVSG yearly. Finally, the manual includes the flexibility to adopt the lifecycle policy to keep the whole process modern and agile.

All voting systems are currently certified to the VVSG 1.0 standard. For various reasons, manufacturers have not successfully certified systems to VVSG 1.1. It seems appropriate to compare VVSG 2.0 with the only other version with fielded systems, VVSG 1.0.

I recommend the adoption of the VVSG 2.0 Principles Guidelines and Requirements. Additionally, I'm recommending the adoption of the Testing and Certification Program and Voting System Test Lab manuals. The VVSG 2.0 represents a significant leap forward in the standards used to test and certify voting systems, and the documents I'm recommending for adoption set the foundation of our program moving forward.

This process has taken many years and is the result of the efforts of a large group of dedicated volunteers and professionals. The process was conducted in an open and transparent way with input throughout the process. Public working groups, multiple public hearings, and -- over the years for both the principles and guidelines and the requirements. There were public board meetings by TGDC and our Standards Board, public comment periods for both of the principles and guidelines, as well as the requirements.

With the adoption of these documents, you will be voting to begin implementation of the VVSG, allow staff to keep the test assertions up-to-date using processes outlined in the manuals, and allow voting system manufacturers to move the development of their next-generation systems towards VVSG 2.0.

All voting systems are currently certified to the VVSG 1.0 standard. Oh, I apologize. I think I said that. And let me just put up -- these are the next steps, accreditation of NVLAP updates through NIST for VVSG 2.0, accreditation of the labs to VVSG 2.0, developing a lifecycle policy, which includes the sunseting information, developing the end-to-end cryptographic protocol, and posting the forms referenced in our manuals that require an OMB number, as they are considered part of the PRA process of information gathering.

I will turn this over back to Chairman Hovland to see if you have questions for me. Thank you.

CHAIRMAN HOVLAND:

Thank you, Director Harrington, for that presentation.

Obviously, the VVSG 2.0 is an extensive and complex document, but I think that was a good summary of the document and how we got to this point today, so I thank you for that.

Next, we obviously are going to have a series of questions from the Commissioners. I'll start, and then we'll rotate with each Commissioner asking one question at a time.

Director Harrington, I'd really like to start. There's been a lot of conversation around the differences regarding wireless access, the wireless access section in the proposed VVSG 2.0 submitted to you, provided to the boards, and posted for public comment earlier in March 2020 compared to the version we're voting on today. Can you talk a little bit about that difference?

MS. HARRINGTON:

Sure, Chairman Hovland. The wording in the VVSG 2.0 draft that was published on Friday, January 29th, does not diverge substantially from the recommended wording reported to the EAC from our boards. The sentence within the discussion area that states, "This requirement does not prohibit wireless hardware within the voting system" is really added for clarity given the original intent was not to ban wireless hardware, as instructions of how to disable wireless were in the requirements approved by the TGDC and Standards Board and posted for public comment.

It also recognizes the increasing difficulty in obtaining commercial off-the-shelf components that do not contain this hardware, especially where voting system costs may rise

substantially in the future if they require custom COTS configurations that are no longer widely available.

I wanted to add a little more to answer your question just for clarification. You know, the added language goes beyond airplane mode, and I've heard that criticism that we're essentially asking for voting machines to be in airplane mode in reference to wireless. And I don't believe that's the case. So the added language goes beyond airplane mode and requires that wireless functionality not exist, whether through not including the necessary hardware and/or removing any drivers or other software that could be used to enable it. Documentation is also required to demonstrate verification of disabling the wireless chipset by the subsystem power control. We implemented a blend of mitigation controls to manage risk when complete elimination of wireless hardware is unattainable.

Wireless is effectively banned as any voting machine seeking to install the drivers or configure the hardware or enable the functionality will not be certified by the EAC. And we strongly encourage manufacturers to build machines without the wireless hardware. The VVSG 2.0 requirement is a significant improvement from VVSG 1.0, which explicitly allowed wireless communication. I hope that answers your question.

CHAIRMAN HOVLAND:

Thank you. Vice Chairman Palmer.

VICE CHAIR PALMER:

Thank you.

Executive Director Harrington, were there modifications of the proposed VVSG 2.0 to lower the cost burden for jurisdictions of the voting equipment that may come out of 2.0?

MS. HARRINGTON:

Throughout the process, the EAC was conscious of not introducing requirements that may have limited utility but may also increase costs substantially. An example of this was the requirement for locks that meet or exceed UL 437 standards. We received feedback that this may cause an undue burden on jurisdictions with fielding voting systems that would need to be fully -- that would need to fully upgrade all their hardware and that may otherwise be VVSG 2.0-compliant if this requirement were left as-is.

VICE CHAIR PALMER:

Thank you.

CHAIRMAN HOVLAND:

Commissioner Hicks?

COMMISSIONER HICKS:

Thank you, Mr. Chairman.

Thank you, Executive Director Harrington.

Can you provide an overview of the comments that were received that were revolving around accessibility within the VVSG 2.0 draft?

MS. HARRINGTON:

Thank you, Commissioner Hicks. We received a significant number of comments from disability advocacy groups conveying a desire for all voters to use the same ballot-marking interface.

Additionally, many of the same groups commented that marking, verification, and casting of ballots be accessible. The EAC is quite limited in what it can mandate through the VVSG, and directives that jurisdictions acquire certain amounts of hardware are beyond the scope.

We have, however, included language mentioning that substantial experience shows that a single accessible voting device may not be sufficient to provide equal access to all voters, as required by law. We further recommend that States consider legislation and additional resources to ensure balanced access to accessible voting technology wherever it is deployed and used for elections.

And lastly, the EAC also agrees that marking, verification, and casting of ballots be accessible and has included requirements in the VVSG to ensure these devices are all part of the certified system.

CHAIRMAN HOVLAND:

Thank you.

Commissioner McCormick?

COMMISSIONER MCCORMICK:

Thank you, Mr. Chair.

Thank you, Director Harrington, for that presentation.

There was a lot of criticism on structure and concerns from the boards on a lack of quorum in this process, and concerns about not having a lack of quorum going forward. And so, moving forward, how can we avoid this type of delay, given the process outlined in HAVA?

MS. HARRINGTON:

Thank you, Commissioner McCormick. There was indeed a lot of criticism on that matter, but I think that criticism has ignored another major factor that must be a focus of EAC leadership, in that most of the work required to keep the VVSG modernized lies within the staff's responsibility to research, work with NIST and other stakeholders, and make recommendations for the Commissioners to adopt. If that work is not being performed regularly, the Commissioners will not have anything to vote on. The staff at the EAC must do its part to keep the process moving.

As you know, I've been in this position, you know, acting first, and then -- you know, I haven't been here that long, so -- but

my understanding is this is the first time since the 1.1 version of VVSG requirements that have been put before all of you to vote on, which tells me predominantly one of the major delays to get VVSG 2.0 completed was a staffing or resource-related issue rather than a quorum issue alone.

As you know, since -- you know, just in the last couple of years, our funding has increased. We were able to hire numerous additional resources to assist with the VVSG, especially in the last 16 months, which has been quite a heavy lift. Without those resources, the work wouldn't have been possible. We've spent a significant amount of time with internal EAC resources leading up to today's vote.

The EAC must be adequately resourced to meet its mission. And, you know, I suspect if the work was completed back then, this would have been voted on in 2019 when the quorum was restored.

I hope that answers your question.

COMMISSIONER MCCORMICK:

Thank you.

CHAIRMAN HOVLAND:

Thank you. Director Harrington, you mentioned in your presentation the test assertions. Can you tell us a little bit more about the test assertions, why they're important, and how they'll be maintained?

MS. HARRINGTON:

Sure, Chairman Hovland. So many of the VVSG requirements focus on design at a high level and may be open to interpretation. So, to thoroughly test these requirements, manufacturers and VSTLs needed to have the ability to break down each VVSG requirement into unambiguous, specific, and testable conditions. And test assertions are a method to accomplish this. And test assertions have granular conditions that have to be tested to determine the conformance to specific VVSG requirements.

The overall goal of the assertions is to ensure that the VSTLs test each requirement in the VVSG correctly and comprehensively. The EAC staff will regularly review and revise the test assertions with feedback from the VSTLs and the manufacturers, along with election officials, NIST, and other stakeholders that can make recommendations to the Executive Director for final approval.

The testing assertions will be updated through the request for information and notice of clarification procedures, as I mentioned in my presentation. In the past, the RFIs and the NOCs were stored on the EAC website as memoranda, and it was difficult for people to ascertain the current state of the requirements without reading through all the documents.

So with that said, the test assertions will now be able to directly update – will be able to directly update and have a single document containing the current version of the testing standards, so I think it's incredibly important and a great advancement.

CHAIRMAN HOVLAND:

Thank you. Vice Chair Palmer?

VICE CHAIR PALMER:

Thank you, Mr. Chair.

Just shifting to the manual, the program manual, under 2.0, how would the program manual improve or expand the oversight of the manufacturers by the EAC?

MS. HARRINGTON:

Thank you, Vice Chair Palmer. The Testing and Certification Program manual was updated to require additional reporting from the manufacturers registered with our program. They're now required to notify the EAC when they implement a new voting system in a jurisdiction, whether the system is EAC-certified or not. More importantly, we now require our registered manufacturers to report all voting system anomalies to the EAC, not just those experienced by EAC-certified systems during Federal elections. So the combination of these two changes will both enhance the visibility the EAC has into the deployment and operation of voting systems across the Nation. And this will improve our ability to

understand common issues that may be addressed through updates to the VVSG requirements, testing assertions, and lab test methods.

VICE CHAIR PALMER:

Thank you.

CHAIRMAN HOVLAND:

Commissioner Hicks?

COMMISSIONER HICKS:

Thank you, Mr. Chairman.

Commissioner -- Executive Director Harrington, how will 2.0 maintain -- be maintained to ensure that it keeps abreast of changing technologies?

MS. HARRINGTON:

Commissioner Hicks, an important part of keeping the VVSG 2.0 up-to-date is the ability for staff to update the implementation details of the requirements through the test assertions.

Additionally, the EAC is currently drafting a VVSG lifecycle policy, as recommended by a TGDC resolution that will detail a regular update process for the VVSG requirements, along with procedures to be followed in the event that the Commission loses a quorum.

CHAIRMAN HOVLAND:

Commissioner McCormick?

COMMISSIONER MCCORMICK:

Thank you, Mr. Chair.

I have asked this question a couple of times at least at public hearings, and I still have some concerns. So, Director Harrington, in your opinion, and to ensure VVSG 2.0 is a success and manufacturers build to a new standard of the voting machines, can you identify why manufacturers did not build systems to VVSG 1.1, rendering it unsuccessful?

MS. HARRINGTON:

Sure, Commissioner McCormick. I actually surveyed some manufacturers, election officials, and other key stakeholders, and the specific reason that everyone gave me was that they were told the VVSG 2.0 was going to be adopted within 12 months, making it arduous and cost-prohibitive to build and test to a version that would be dated within several months. We're not in that situation today. I believe the VVSG must be agile, and recommendations must be presented to the boards at the very least once a year. I hope that answers your question.

COMMISSIONER MCCORMICK:

Yeah. I'm just -- you know, I'm concerned. I want to make sure that 2.0 is successful, so thank you.

MS. HARRINGTON:

Thanks.

CHAIRMAN HOVLAND:

Thank you. Director Harrington, can you talk about how VVSG 2.0 will affect the time it takes for systems to get certified?

MS. HARRINGTON:

If manufacturers may use opportunities we've provided, we believe the overall testing and certification time will be dramatically reduced. For example, manufacturers are allowed to have components of their systems tested to VVSG 2.0. We were having the whole system brought up to the standard. And those testing can be reused when the full system is ready for evaluation against 2.0, significantly reducing the overall time required. Additionally, the test assertions give the manufacturers more specificity about how their systems will be evaluated and allow them to develop internal testing and quality assurance procedures that should also decrease the time spent in a laboratory.

CHAIRMAN HOVLAND:

Thank you. Vice Chair Palmer?

VICE CHAIR PALMER:

Thank you, Chairman Hovland.

One concern of the voting system -- one concern has been the voting system market and ensuring that it's a competitive market. In comparison with previous VVSG versions, will 2.0 help or hinder, in your opinion, the ability of potential manufacturers -- new manufacturers to enter the voting system industry?

MS. HARRINGTON:

I believe that the addition of the test assertions to the Testing and Certification Program will dramatically improve the ability of new manufacturers to enter the market. The test assertions provide a comprehensive set of pass-fail criteria that Voting System Test Laboratories will use to create their test methods and their test cases. I believe this will remove the ambiguity for both manufacturers and laboratories, as well as work to ensure a consistent approach taken by each laboratory.

We also added a component testing pilot program to this version of the Testing and Certification Program manual to evaluate the feasibility of certifying components to work with new or existing voting systems without a manufacturer necessarily having to create their own complete voting system. We hope that this will lead to best-in-breed components that can utilize standard data interchange mechanisms outlined in VVSG 2.0 common data formats to operate with existing systems and components.

CHAIRMAN HOVLAND:

Thank you. Commissioner Hicks?

COMMISSIONER HICKS:

Thank you.

Executive Director Harrington, how did the comment resolution process work?

MS. HARRINGTON:

Commissioner Hicks, after the close of the public comment period, EAC staff compiled and submitted the comments in a spreadsheet with links to any documentation submitted by the commenters. The comments were categorized by that section or requirement they were addressing to the best of our ability. As some comments were worded in a very broad manner and not addressed to a particular requirement, using the compilation, the EAC met with NIST personnel twice weekly to review the comments, starting with the introduction wording, then Principle 1, and working through the end where commenters made specific suggestions. Their suggestions were considered and in many cases sent to NIST for updates to the requirements document.

COMMISSIONER HICKS:

Thank you.

CHAIRMAN HOVLAND:

Commissioner McCormick.

COMMISSIONER MCCORMICK:

Yeah, this is a question about transition. In what way is -- what ways are -- is the EAC facilitating a bridge for where systems are at now, where they currently are, to the VVSG 2.0?

MS. HARRINGTON:

Thank you, Commissioner McCormick. So the Testing and Certification Program manual allows manufacturers to test components to higher versions of the VVSG than the overall system. For instance, they may submit a ballot-marking device for testing against the VVSG 1.1 requirements while the rest of the system is tested to VVSG 1.0. While the full system would still carry a VVSG 1.0 certification, incrementally updating components and allowing reuse of that testing in the future certification, campaigns will make it easier for manufacturers to bridge their systems from older standards to the latest.

Additionally, the updated manual allows for labeling of components to the VVSG standard they were tested to instead of the system's overall VVSG version. This will allow a smoother transition without the need to relabel fielded components once the overall system is certified to an updated standard.

And it's important to note that a system's overall certification will represent the lowest common certification of its components. You may have a VVSG 2.0-certified system with a VVSG 1.0 or a VVSG 1.1 certified components.

COMMISSIONER MCCORMICK:

Thank you. I appreciate that answer.

CHAIRMAN HOVLAND:

I see we're a little behind schedule, so without objection, I will move to the next portion of our agenda.

Well, thank you, Director Harrington. Before we vote, I'd like to offer some initial reactions to your testimony. First, I'd really like to thank you and our team at the EAC for all the work that's gone into this effort. You know, we absolutely wouldn't be here today if it were not for those efforts, so thank you, again, for that.

It's clear to me that the VVSG improves accessibility and security with some of the enhancements like interoperability of voting systems, including the specifics regarding the common data formats, are important steps to modernize election technology. You mentioned software independence, and it's a major factor in the improved security requirements, in addition to the data protection and numerous other security safeguards that we heard about.

Certainly, we know the work does not end here. We must continue to press forward with the next steps in the process, including the completion of the National Voluntary Laboratory Accreditation Program, further developing the end-to-end cryptographic protocol evaluation, and voting on the VVSG lifecycle policy that you mentioned in the coming months. I know I'm committed to that, and I appreciate my colleagues' willingness to work to make this program and our agency better.

I look forward to hearing from my colleagues on any additional thoughts they may have. Mr. Vice Chair?

VICE CHAIR PALMER:

Thank you, Mr. Chair.

Thank you, Director Harrington, for that overview and insight into the proposed VVSG 2.0.

You know, for our listeners, much of this development to get to a final stage took place during an election season where most of the staff were working long hours during a pandemic helping and assisting election officials, so the fact that we are here, the fact that Executive Director Harrington was able to have multiple paths, parallel paths, thank you for your work on this.

There are a few things that stand out after the hearing and the presentation and the discussions over the last year. One of the assets of the new program manual, in my opinion, is the enhanced necessary oversight of manufacturers and increased transparency of the voting machines. The auditability and transparency requirements in this version of VVSG will undoubtedly facilitate more audits of election results and notifications of any issue or anomaly that may need review or investigation.

I note the manuals include an increased vulnerability and penetration testing program with the EAC program called Test Readiness Review, and that would be part of the Testing and

Certification Program after today. And that is now fully documented in the manuals and will be required for manufacturers bringing in systems for review, testing, and final certification by the EAC. This added transparency builds confidence and trust in the voting systems, and I believe this revised new approach to the manuals will benefit the EAC and American voters.

In my mind, the revised manuals will reflect the spirit of HAVA. The certification will not end simply upon approval of the individual voting system. Certification will be an ongoing review of existing systems over the course of the lifetime of the voting equipment to ensure awareness and investigation of any anomaly and subsequent resolution of that matter with full openness and transparency to the EAC.

Thank you again to everyone who contributed to getting us to this vote today. Thank you, Mr. Chair.

CHAIRMAN HOVLAND:

Thank you, Vice Chair Palmer.

Commissioner Hicks.

COMMISSIONER HICKS:

Thank you, Mr. Chair.

Director Harrington, thank you for that presentation and for covering accessibility provisions of VVSG 2.0.

As a Commissioner of a Federal agency that's responsible for the administration of elections, I take the obligation to assist all voters with equal access to the ballot extremely seriously. This means working with and considering the needs of the disability community to provide accessible voting systems.

While I'm pleased with the proposal before us today, I also understand the accessibility provisions in VVSG 2.0 received its fair share of criticism during public hearings and in the many submissions we received during the public comment period. For example, we heard from many that our continued reliance on paper remains problematic and -- for a large portion of the disability community. As another example, we understand that others want to expand electronic ballot delivery. But while we have some progress to make on these and other accessibility issues, as a whole, VVSG 2.0 makes significant advances and enhances accessibility for people with mobility issues.

Finally, please know that our work on these issues is far from over. In fact, the EAC will hold an accessibility roundtable on February 17th to review the results of a recent disability survey conducted by Rutgers University, and I hope that all are able to participate and view that.

With that, thank you, Mr. Chairman, and thank you, Executive Director Harrington, for that presentation.

CHAIRMAN HOVLAND:

Thank you, Commissioner Hicks.

Commissioner McCormick?

COMMISSIONER MCCORMICK:

Thank you, Mr. Chair.

And I want to thank you, Director Harrington, for your presentation and for all the work that you and the staff have put into this.

As we take this step today, we are also looking forward. I want -- I hope that manufacturers can use the VVSG 2.0 to quickly design new systems that meet the new requirements. And we recognize the importance of these new requirements and the need to be responsive. And if areas for improvement become apparent as the standards are implemented, the EAC will be ready to propose adjustments.

This has been a long process. I'm hopeful that less time will pass before the next iteration so the standards can keep pace with improvements in technology and our voting systems remain secure and accessible for voters. Thank you very much.

Back to you, Mr. Chair.

CHAIRMAN HOVLAND:

Thank you, Commissioner McCormick.

I'll now take a motion to adopt the Voluntary Voting System Guidelines 2.0, as presented by EAC staff and reviewed by the Commissioners.

VICE CHAIR PALMER:

Mr. Chair, I would move to adopt VVSG 2.0.

CHAIRMAN HOVLAND:

Thank you, Vice Chair. Is --

COMMISSIONER HICKS:

I second that motion.

CHAIRMAN HOVLAND:

-- there a second?

COMMISSIONER HICKS:

I second that motion.

CHAIRMAN HOVLAND:

Thank you, Commissioner Hicks.

We have a motion before us to adopt VVSG 2.0 that has been properly moved and seconded. All in favor, say aye.

[Chorus of ayes]

CHAIRMAN HOVLAND:

All opposed, say nay.

[No response]

CHAIRMAN HOVLAND:

Hearing none, the motion is anonymous -- or unanimous, and we have -- the final VVSG 2.0 is adopted here today and will be published in the Federal Register pursuant to HAVA. Thank you all.

I will now take a motion to adopt the Testing and Certification Program Manual as presented by the EAC staff and reviewed by the Commissioners.

COMMISSIONER HICKS:

I move for adoption of the manuals.

CHAIRMAN HOVLAND:

Is there a second?

COMMISSIONER MCCORMICK:

I second.

CHAIRMAN HOVLAND:

It's been properly moved and seconded. All in favor, say

aye.

[Chorus of ayes]

CHAIRMAN HOVLAND:

Opposed?

[No response]

CHAIRMAN HOVLAND:

Hearing none, it is unanimous, and the program manual, as presented, has been adopted.

I will now take a motion to adopt the Voting System Test Laboratory Manual, as presented by the EAC staff and reviewed by the Commissioners.

COMMISSIONER MCCORMICK:

I moved to accept the VSTL Manual.

VICE CHAIR PALMER:

I second that.

CHAIRMAN HOVLAND:

It has been properly moved and seconded. All in favor, say aye.

[Chorus of ayes]

CHAIRMAN HOVLAND:

Opposed?

[No response]

CHAIRMAN HOVLAND:

Hearing none, that is unanimous, and it has been adopted.

The motion to pass the VSTL Manual is approved.

Well, thank you to all the Commissioners for those votes.

And that is a big step today. Today's vote on the VVSG 2.0 is the most important action the EAC has taken in 15 years. I think we all feel a sense of pride, but also a sense of responsibility to make this iteration of the VVSG as good as possible. The VVSG will always be a work in progress, and we know that for sure, but after 15

years, they now provide a baseline for manufacturers to work from for the next generation of voting technology.

We all know how rapidly technology advances in our everyday lives, and know how critical it is to follow robust security practices as we learn about new attack vectors in this dynamic environment. Voting systems are no different. As we look to the next steps, we must make sure the Testing and Certification Program can be responsive to the emerging technologies and changes in the field. To address this, language was added in the requirements, as well as the Testing and Certification Program Manual, to review the VVSG annually and ensure we are continually enhancing the VVSG to help with modernization and agility of the EAC process.

Additionally, we need to make sure standards are met and manufacturers are held accountable. As I stated earlier, this is some of the most important work the EAC has accomplished, and we will continue to move forward for the sake of our elections and our democracy.

I thank you all, and I'll now take a motion to adjourn today's meeting.

COMMISSIONER MCCORMICK:

So moved.

VICE CHAIR PALMER:

Second.

CHAIRMAN HOVLAND:

It has been properly moved and seconded to adjourn the meeting. All in favor, say aye.

[Chorus of ayes]

CHAIRMAN HOVLAND:

Opposed?

[No response]

CHAIRMAN HOVLAND:

Hearing none, this meeting of the Election Assistance Commission is adjourned.

[The virtual meeting of the United States Election Assistance Commission adjourned at 12:16 p.m.]

bw/cms