



## **Testimony of Matthew Masterson**

**EAC Public Meeting September 21, 2010**

### **2005 VVSG Revision Policy Decisions Discussion**

#### **Introduction**

Chair Davidson, Commissioners Hillman and Bresso, and Executive Director Wilkey thank you for allowing me to testify today regarding the pending policy decisions for the proposed revision to the 2005 Voluntary Voting System Guidelines (VVSG). Before I discuss today's policy decisions, I think it is important to provide terminology and context for the discussion. There are four different sets of voting system standards or guidelines that may come up during today's discussion.

- 2002 Voting System Standards (VSS)
- 2005 VVSG
- The revision to the 2005 VVSG
- The next iteration of the VVSG

As you are aware the 2002 VSS was created by the Federal Election Commission (FEC) and used by the National Association of State Election Directors (NASSED) for their testing process. The 2005 VVSG was adopted by the EAC in December of 2005 as required by the Help America Vote Act (HAVA). The revisions to the 2005 VVSG are what we will discuss today and which I will expand upon later in my testimony. And finally, the next iteration of the VVSG is a draft created by the EAC's Technical Guidelines Development Committee (TGDC) in August of 2007. It is important that we use this terminology during today's discussion to ensure we are all talking about the same standards or guidelines as we discuss these policy decisions.

## **Revising the 2005 VVSG**

As I mentioned the 2005 VVSG was adopted by the EAC in December of 2005 within the nine-month timeframe prescribed by HAVA. After its adoption the EAC's Voting System Testing and Certification Program began. In December of 2006, the 2005 VVSG became the required set of guidelines for all systems submitted for testing to EAC. Since that time EAC has certified two voting systems to the 2005 VVSG and two modifications to voting systems were tested to the 2005 VVSG. In the course of testing these systems EAC's program has learned a great deal regarding the testability and clarity of the guidelines. It is this practical experience that led to EAC's decision to propose revising the 2005 VVSG. The purpose of the revision was three-fold; (1) clarify the guidelines to make them more testable; (2) enable the National Institute of Standards and Technology (NIST) to create test suites for the proposed revisions; (3) update portions of the guidelines that could be easily updated without dramatically altering the guidelines. In essence, EAC wanted to improve the consistency and efficiency of the testing process in a short period of time.

To accomplish these goals EAC worked with its partners at NIST to take portions of the next iteration of the VVSG and incorporate them into the 2005 VVSG. This would allow EAC to take advantage of the precise testable nature of some of the requirements in the next iteration while maintaining the general structure and testing scheme of the 2005 VVSG. Those sections of the next iteration selected for use in the revision to the 2005 VVSG represent areas EAC has identified as being most in need of clarification and updating as well as easily implementable into the 2005 VVSG.

## **Policy Decisions**

The policy decisions being discussed today represent issues presented as a result of the 120-day public comment period EAC conducted for the revision to the 2005 VVSG. During the public comment period EAC received three hundred and seven comments via its public comment tool. EAC's Standards Board and Board of Advisors also offered comments. In addition, as a result of public comments, EAC held an accessibility roundtable on August 5, 2010 to further inform EAC about accessible technology and how that technology might be leveraged to improve access for voters with disabilities. This roundtable proved to be very useful in understanding the implications of several of the policy decisions we will discuss today.

So with that information as background I will begin discussion on the five policy decisions:

## ***Decision #1***

### **Standard:**

Volume 1 Section 3.2.5(b) - Any aspect of the voting system that is adjustable by either the voter or poll worker, including font size, color, contrast, audio volume, or rate of speech, shall automatically reset to a standard default value upon completion of that voter's session. For the Acc-VS, the aspects include synchronized audio/video mode and non-manual input mode.

Volume 1 Section 3.3.2(d) - The Acc-VS shall provide synchronized audio output to convey the same information as that which is displayed on the screen. There shall be a means by which the voter can disable either the audio or the video output, resulting in a video-only or audio-only presentation, respectively. The system shall allow the voter to switch among the three modes (synchronized audio/video, video-only, or audio-only) throughout the voting session while preserving the current votes.

### **Comment (Standards Board Resolution 2009-11):**

Resolved, The requirement for an electronic display screen as the only method of providing synchronized audio/visual presentation of the ballot be removed from VVSG Version 1.1 in all areas including: 3.2.5(b); 3.3.7(a); and 3.3.2(d).

### **Issue:**

Proposed requirement could have an unintended impact on some already existing technologies in use in the states.

### **EAC Staff Recommendation:**

It is recommended that the requirement for synchronized audio/video be removed.

Change language back to old requirement which read "An accessible voting station using an electronic image display shall provide synchronized audio output to convey the same information as that which is displayed on the screen".

## ***Decision #2***

### **Standard:**

Volume 1 Section 3.3.1.(e) - If the Acc-VS generates a paper record (or some other durable, human-readable record) for the purpose of allowing voters to verify their votes, then the system shall provide a means to ensure that the verification record is accessible to all voters with disabilities, as identified in 3.3 "Accessibility requirements".

Discussion: While paper records generally provide a simple and effective means for technology-independent vote verification, their use can present difficulties for voters with certain types of disabilities. The purpose of this requirement is to ensure that all voters

have a similar opportunity for vote verification. Note that this requirement addresses the special difficulties that may arise with the use of paper. Verification is part of the voting process, and all the other general requirements apply to verification, in particular those dealing with dexterity (e.g. 3.3.4 c), blindness (e.g. 3.3.3 e) and poor vision issues (e.g. 3.2.5 g).

i. If the Acc-VS generates a paper record (or some other durable, human-readable record) for the purpose of allowing voters to verify their votes, then the system shall provide a mechanism that can read that record and generate an audio representation of its contents.

Discussion: Sighted voters can directly verify the contents of a paper record. The purpose of this requirement is to allow voters with visual disabilities to verify, even if indirectly, the contents of the record. It is recognized that the verification depends on the integrity of the mechanism that reads the record to the voter. The audio must be generated via the paper record and therefore not depend on any electronic or other "internal" record of the ballot. Note that the paper record and its audio representation may be rendered in an alternative language.

**Comment (Board of Advisors Comment, June 2009):**

3.3.1 – e – Verification of a paper record by the voter

The standard shall specify that an accessible voting system shall enable the voter to verify a paper ballot in the same style and manner as the ballot was generated. (large text size, audio, etc).

Sub-standard 3.3.1-E.1 shall be deleted.

Recommend changing the requirement to read as follows, "If the Acc-VS uses or generates a paper record (or some other durable, human-readable record) that can be the official ballot or determinative vote record, then the system shall allow the voter to verify the paper record using the same access features as were used to generate the ballot. Voting equipment or systems currently in use are not subject to these accessibility requirements. As of January 1st, 2013, systems submitted for complete end to end testing shall meet this requirement."

**Issue:**

HAVA requires that "the voting system shall be accessible for individuals with disabilities..." However, this change would require a hardware change for most systems.

**EAC Staff Recommendation:**

Adopt the intent of the Board of Advisors recommendation, with the understanding that EAC will work with NIST in order to make the wording more precise and testable. In order to facilitate this transition EAC will work with the manufacturers and the accessibility community to understand the technological challenges and facilitate the development process for machines for these requirements.

### ***Decision #3***

#### **Standard:**

Volume 1 Section 3.3.4 (a)(b),(c) Dexterity - These requirements specify the features of the accessible voting station designed to assist voters who lack fine motor control or use of their hands.

- a. The manufacturer shall conduct summative usability tests on Acc-VS using individuals lacking fine motor control and shall report the test results, using the Common Industry Format, as part of the TDP. In addition, the usability test report shall be submitted to the EAC as part of the documentation manufacturers are required to file with the application to test a voting system.
- b. The accessible voting station shall provide a mechanism to enable non-manual input that is functionally equivalent to tactile input. All the functionality of the accessible voting station (e.g., straight party voting, write-in candidates) that is available through the conventional forms of input, such as tactile, shall also be available through the non-manual input mechanism.

Discussion: This requirement ensures that the accessible voting station is operable by individuals who do not have the use of their hands. Examples of non-manual controls include mouth sticks and "sip and puff" switches. While it is desirable that the voter be able to independently initiate use of the non-manual input mechanism, this requirement guarantees only that the voter can vote independently once the mechanism is enabled.

- c. If Acc-VS supports ballot submission or vote verification for non-disabled voters, then it shall also provide features that enable voters who lack fine motor control or the use of their hands to perform these actions.

Discussion: For example, if voters using this station normally perform paper-based verification, or if they feed their own optical scan ballots into a reader, voters with dexterity disabilities must also be able to do so. Note that the general requirement for privacy when voting (Requirement part 1:3.2.3.1 a.) still applies.

#### **Comment (EAC Board of Advisors, June 2009):**

Sections 3.3.4 (b) and (c) in Volume I of the VVSG [should be changed] to read "The accessible voting system shall provide an industry standard jack used to connect a personal assistive technology switch to the voting system. As of January 1st, 2013, systems submitted for complete end-to-end testing shall meet this requirement."

Adding to the end, an exception on Volume 1, 3.3.1 (c). to read: "This requirement shall not apply to personal assistive technology required to comply with 3.3.4 (b) – support for non-manual input."

[The] Board of Advisors recommends that the EAC shall create management guidance regarding the needs of people with several disabilities, types of personal assistive technology switches, and best practices for poll workers in jurisdictions serving those voters.

**Comment (EAC Board of Advisors, June 2009):**

The current standard in Section 3.3.4-c which reads: “If the paper ballot VVPAT is the official ballot of record, a voter who lacks fine motor control issues must have a way to submit the ballot without handling the paper ballot or record” be changed according to the VSS [Board of Advisors Voting System Standards] Committee’s recommendation. “The Acc-VS shall provide features that enable voters who lack fine motor control or the use of their hands to submit their ballots privately and independently without manually handling the ballot. Voting equipment or systems currently in use are not subject to these accessibility requirements. As of January 1st, 2013, systems submitted for complete end to end testing shall meet this requirement.”

**Comment (California Secretary of State): Delete 3.3.4(c):**

“If Acc-VS supports ballot submission or vote verification for non-disabled voters, then it shall also provide features that enable voters who lack fine motor control or the use of their hands to perform these actions.” AutoMARK hardware does not meet this requirement. One of the EAC's criteria for identifying candidate v.1.1 requirements from the TGDC recommendations included “would not require hardware changes to current voting systems.” (See Vol. I – Background – p. 3.) Addition of this provision violates the criterion that version 1.1 revisions may not require hardware changes to current voting systems.

**Issue:**

HAVA requires that “the voting system shall be accessible for individuals with disabilities...” However, this change would require a hardware change for most systems.

**EAC Staff Recommendation:**

Adopt the intent of the Board of Advisors recommendation, with the understanding that EAC will work with NIST in order to make the wording more precise and testable. In order to facilitate this transition EAC will work with the manufacturers and the accessibility community to understand the technological challenges and facilitate the development process for machines for these requirements.

***Decision #4***

**Comment (Board of Advisors, June 2009):**

“General Reference Recommendations  
Rename the reference to the VVSG

The current practice of naming the federal voting system standards according to a year is misleading and could undermine public acceptance of the information. The future and past versions should be named accordingly:

- 1990 VSS: Version 1
- 2002 VSS: Version 2
- 2005 VVSG: Version 3
- Update to 2005 VVSG: Version 3.1
- Next Iteration: Version 4

Use of language regarding various versions of the VVSG

While working on updates to Version 3, EAC needs to develop and use language that will keep Version 3.1 relevant while Version 4 is being developed. Continued work and discussion of Version 4 should emphasize that it is for the next generation of voting systems yet to be manufactured, and that Version 3.1, once adopted, will be the current standards.

The Board adopt the Voting System Standards Committee's recommendations with an amendment that the Update to the 2005 VVSG be numbered Version 3.1 as opposed to Version 3.2".

In addition, a comment (attached) was submitted directly to the Commissioners by Verified Voting Foundation on June 25, 2009 suggesting that the naming of the VVSG begin with the 2002 VSS as "VVSG 1.0" and build from there.

**Issue:**

The version control of the VVSG and naming of the VVSG is at issue. As currently adopted and published the 2005 VVSG is currently versioned as "version 1.0". In order to change this version the EAC would need to reopen the 2005 VVSG and reversion it. In addition, the 2002 VSS is under the control of the FEC. The process for opening the VSS and republishing it as v.1.0 is unclear, same with the 1990 standards. In addition, if these naming conventions were adopted, the EAC would be forced to abandon its existing trademarks and apply and pay for trademarks for the new naming conventions.

**EAC Staff Recommendation:**

Keep the 2005 VVSG as version 1.0. This revision to the 2005 VVSG would therefore be called version 1.1. When the next iteration of the VVSG is completed it would be version 2.0 because it is a total re-write of the 2005 VVSG. This recommended naming convention follows standard NIST and ISO protocol where the agency responsible for the creation of the document controls that version of the document.

***Decision #5***

**Comment (ACCURATE):**

As we discuss in ACCURATE's narrative comment, this effectively eliminates an "effective date" for VVSG v1.1. Is this an oversight? Was it the EAC's intention that the

VVSG v1.1 should go into effect immediately upon adoption by EAC? As we explain further in our comment narrative, the VVSG v1.1 changes are not small feat and if they go into effect immediately upon adoption, it will be years before any vendor that we've examined (CA TTBR, OH EVEREST, etc.) will be able to comply. Hopefully the VVSG 2005 would buffer some of this, but the software validation requirements will require system re-design and re-architecture.

**Issue:**

The purpose of revising the 2005 VVSG was to improve the EAC's Testing and Certification process as well aide the development of test suites by NIST. The impact of this revision is meant to be minimal both on the labs and manufacturer but instead is designed to improve the clarity and testability of the standards. However, with any change to the standard the VSTL's will need to change many of their processes and test methods. Also, for certain software and security changes manufacturers will need to change code and documentation.

**EAC Staff Recommendation:**

Allow the 2005 VVSG and the revision to the 2005 VVSG to be effective concurrently until July 1, 2011. After July 1, 2011 ALL systems submitted for testing, modifications or end-to-end, shall be tested to the revision to the 2005 VVSG. This will allow enough time for NIST to complete work on the test suites being prepared for the revision to the 2005 VVSG. Additionally, EAC can work with the VSTLs to help prepare additional testing protocols to be used by all labs in order to test to the revision to the 2005 VVSG.





The Honorable Gineen Bresso Beach  
The Honorable Gracia Hillman  
The Honorable Donetta Davidson  
U.S. Election Assistance Commission  
1225 New York Avenue, NW, Ste. 1100  
Washington, DC 20005

June 25, 2009

Dear Commissioners,

Recently, the Commission has adopted a naming convention for the Voluntary Voting System Guidelines (VVSG) that refers to the 2005 iteration of the guidelines as "VVSG 1.0," and the proposed update to the VVSG 2005 as "VVSG 1.1." We believe this naming convention may not be in concordance with HAVA Section 222(e), which mandates that the last voting system standards adopted by the Federal Election Commission prior to HAVAs' enactment be deemed adopted by the Election Assistance Commission as the first set of voluntary voting system guidelines developed pursuant to Part 3 of HAVA.

Here is the text of section 222(e):

*Special Rule for Initial Set of Guidelines.--Notwithstanding any other provision of this part, the most recent set of voting system standards adopted by the Federal Election Commission prior to the date of the enactment of this Act shall be deemed to have been adopted by the Commission as of the date of the enactment of this Act as the first set of voluntary voting system guidelines adopted under this part.<sup>1</sup>*

We respectfully suggest that because the voting system standards adopted by the Federal Election Commission on April 30, 2002 appear to be the lawful first set of voluntary voting system guidelines adopted by the Commission pursuant to Part 3 of HAVA, the Commission change the current naming convention so that the 2002 voting system standards are designated "VVSG 1.0;" or that the Commission adopt a new naming convention that otherwise correctly reflects the status of the 2002 voting system standards as the first iteration of the VVSG. We look forward to your response concerning this matter, and we thank you for your ongoing responsiveness to public comment.

Sincerely,

Warren Stewart  
Legislative Policy Director, Verified Voting Foundation

Pamela Smith  
President, Verified Voting Foundation

cc: Brian Hancock

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<sup>1</sup> Retrieved June 24, 2009 from [http://www.fec.gov/hava/law\\_ext.txt](http://www.fec.gov/hava/law_ext.txt)