



**Testimony  
Before the U.S. Election Assistance Commission**

**VVSG 1.1 Briefing**

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Commissioners Hicks, Masterson and McCormick, and Acting Executive Director Miller thank you for allowing me to testify today regarding the proposed revision to the 2005 Voluntary Voting System Guidelines (VVSG). Before I discuss the revisions, 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 (1.0)
- The revision to the 2005 VVSG (1.1)
- The next iteration of the VVSG (2.0)

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) and we refer to it as 1.0.

The revisions to the 2005 VVSG are what we will discuss today and we refer to it as 1.1.

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 and we refer to it as 2.0.

## **Revising the 2005 VVSG**

The EAC adopted the 2005 VVSG in December of 2005 within the nine-month timeframe prescribed by HAVA. After adoption, the EAC's Voting System Testing and Certification Program began. In December of 2006, the 2005 VVSG became the standard used for testing all systems submitted to the EAC Testing & Certification program. The 2005 VVSG was introduced in 2007. For a period of time, manufacturers could request to be tested to the 2002 VSS or the 2005 VVSG. By December 2007, voting systems could no longer be approved for testing to the 2002 VSS and the 2005 VVSG (1.0) was fully implemented.

In the course of testing voting systems the Testing & Certification program learned a great deal regarding the testability and clarity of the guidelines. It is this practical experience that led to the decision to propose revision of 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 allowed 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 2.0 selected for use in 1.1 represent areas EAC identified as being most in need of clarification and updating as well as easily implementable into the 2005 VVSG. Generally, these items included:

- Human factors requirements, except usability benchmarks;
- Security (VVPAT, Electronic records, Cryptography, System security specifications and external interface);
- Core requirements (S/W workmanship, reliability, accuracy, and humidity);
- incorporation of Request for Interpretations issued on the 2005 VVSG during test campaigns;
- and two public comment periods with a combined review period of 250 days.

The first 120-day public comment period on VVSG 1.1 opened on June 1, 2009 and closed on September 28, 2009. EAC received 244 public comments during this period. EAC and NIST worked together to determine which comments would be accepted and which would not. Seventy-eight (78) comments were not accepted. One hundred and fifty-nine (159) comments were either accepted or partially accepted and changed in 1.1. Seven (7) comments were grouped into a five (5) policy decisions presented to Commissioners Bresso, Davidson and Hillman on September 21, 2010. These policy questions were never voted on by the Commissioners.

After the comment period in 2009, the EAC's Testing & Certification Program discovered additional best practices, experienced anomalies and deficiencies with voting systems entering the Testing and Certification Program, and clarified many ambiguities with the standard through the Request for Interpretation (RFI) process. Changes were made after the 2009 120-day public comment period to address these issues. After the 2009 public comment, changes were made to the following areas:

- Telecommunications - treat all results as official
- NSRL - removed all references
- Software Validation - provided a secondary method of software validation not available in the 2005 VVSG
- Access Control - enhanced access control requirements based on the two—tier access control model present in today's election equipment
- Quality Assurance and Configuration Management - combined sections 8 and 9 into a single section
- Coding Conventions
- Required Languages - required all systems to officially support at least one ideographic language
- Audit and Election Logging - enhanced and strengthen logging requirements by providing greater clarity and specific, especially for election logs
- All relevant Requests for Interpretations within the latest draft of VVSG 1.1.

The second 130-day public comment period on 1.1 opened on September 6, 2012 and closed on January 14, 2013. EAC received seven hundred and one (701) comments during this comment period. EAC reviewed the comments and divided them in to 4 categories: accept, reject, comments on not highlighted sections and comments for discussion with NIST. After initial sorting, EAC met with NIST to resolve the comments that needed discussion. After this meeting, EAC made final determinations on all comments and began revising 1.1. EAC accepted one hundred and seventy-eight (178) comments. One hundred and fifty-seven (157) comments were not accepted. Three hundred and sixty-six comments (366) were on sections of 1.1 that were not highlighted and not open for comment, based on the Federal Register Notice for the second comment period. EAC received five (5) additional comments after the comment period that came up during work with NIST on test assertions for 1.1 and will revise these in 1.1.

Testing & Certification finished the bulk of the revisions and is currently working on a few definitions (requested during public comment), formatting of the document and final reviews.