VOLUNTARY VOTING SYSTEM GUIDELINES – VOLUME 1

Voting System Performance Guidelines

1 Introduction

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1 Introduction

1.1 Purpose and Scope of the Voluntary Voting System Guidelines

The purpose of the *Voluntary Voting System Guidelines* (hereinafter referred to as *VVSG* or the *Guidelines*) is to provide a set of specifications and requirements against which voting systems can be tested to determine if they provide all the basic functionality, accessibility, and security capabilities required of voting systems. The VVSG specifies the functional requirements, performance characteristics, documentation requirements, and test evaluation criteria for the national certification of voting systems. To the extent possible, these requirements and specifications are described so they can be assessed by a series of defined, objective tests. The VVSG is composed of two volumes: Volume 1, Voting System Performance Guidelines, and Volume 2, National Certification Testing Guidelines.

The VVSG is one of several inter-related EAC promulgated guidelines and programs concerned with maintaining the reliability and security of voting systems and the integrity of the overall election process. National certification testing of voting systems is restricted to testing labs that have been formally accredited to be technically competent to evaluate systems for conformance to the Voting System Performance Guidelines. The National Association of State Election Directors (NASED) initiated the independent testing authority accreditation program for voting system test labs in 1994, applying the standards and procedures in NASED Program Handbook 9201 (Revision A). With the passage of the Help America Vote Act (HAVA), this responsibility transitioned to the Election Assistance Commission (EAC) with support from the National Voluntary Laboratory Accreditation Program (NVLAP). This program is operated by the National Institute of Standards and Technology (NIST), applying the standards and procedures in NIST Handbook 150-22, NVLAP Voting System Testing.

The VVSG and the test lab accreditation process are essential components of the EAC National Certification Program for voting systems. This program applies the standards and procedures documented in the EAC voting system certification manual. HAVA Section 231 charges EAC with providing for the certification, decertification and recertification of voting systems. Under this program national certification is just the first step of the life cycle process of maintaining the reliability and security of the voting systems used in the nation's elections. To carry out this mandate, the EAC program will include monitoring of voting system performance through incident reporting by election officials and others. The certification program will maintain information on the quality assurance practices associated with the development and manufacturing of voting systems. When a system has successfully completed the certification process, the EAC program requires a copy of the certified voting system software to be provided to the National Software Reference Library operated by

NIST. This will enable election officials to validate that the software received by their jurisdictions is the same as the certified version.

The VVSG notes the need for appropriate procedures to complement and supplement the technical requirements for voting system performance. It is well known that deficiencies in election management and administration procedures can have just as much impact on the enfranchisement of voters and the outcome of elections as the functioning of the voting machines. The overall integrity of the election process depends on both of these elements working together. EAC and NASED have instituted a multi-year effort to develop a comprehensive set of election management guidelines that will complement the technical system guidelines, as well as cover other elements of the election process.

Except as noted below, VVSG Volume I, Voting System Performance Guidelines, applies to all system hardware, software, telecommunications, and documentation intended for use to:

- Prepare the voting system for use in an election
- Produce the appropriate ballot formats
- Test that the voting system and ballot materials have been properly prepared and are ready for use
- Record and count votes
- Consolidate and report election results
- Display results on-site or remotely
- Produce and maintain comprehensive audit trail data

Some voting systems use one or more commercial off-the-shelf (COTS) devices (such as card readers, printers, and personal computers) or software products (such as operating systems, programming language compilers, and database management systems). These devices and products are exempt from certain portions of system certification testing, as long as they are not modified for use in the voting system.

VVSG Volume 2, National Certification Testing Guidelines, describes the testing process that is designed to provide a documented independent verification by an accredited testing laboratory that a voting system has been demonstrated to conform to the Volume 1 requirements and therefore should receive national certification. It provides specific detail about the testing process and documentation requirements required to support the national certification program.

1.2 Use of the Voluntary Voting System Guidelines

The *Guidelines* are intended for use by multiple audiences to support their respective roles in the development, testing, and acquisition of voting systems:

- The accredited testing laboratories who use this information to develop test plans and procedures for the analysis and testing of systems in support of the national certification testing process

- State and local election officials who are evaluating voting systems for potential use in their jurisdictions
- Voting system designers and manufacturers who need to ensure that their products fulfill all these requirements so they can be certified

1.3 Evolution of Voting System Standards

1.3.1 Federal Election Commission

The first voting system standards were issued in January 1990, by the Federal Election Commission (FEC). This document included performance standards and testing procedures for Punchcard, Marksense, and Direct Recording Electronic (DRE) voting systems. These standards did not cover paper ballot and mechanical lever systems because paper ballots are sufficiently self-explanatory not to require technical standards and mechanical lever systems are no longer manufactured or sold in the United States. The FEC also did not incorporate requirements for mainframe computer hardware because it was reasonable to assume that sufficient engineering and performance criteria already governed the operation of mainframe computers. However, vote tally software installed on mainframes was covered.

A national testing effort was initiated by NASED in 1994. As the system qualification process matured and qualified systems were used in the field, the NASED Voting Systems Board, in consultation with the testing labs, identified certain testing issues that needed to be resolved. Moreover, rapid advancements in information and personal computer technologies introduced new voting system development and implementation scenarios not contemplated by the 1990 Standards.

In 1997, NASED briefed the FEC on the importance of keeping the Standards up-to-date. Following a Requirements Analysis completed in 1999, the FEC initiated an effort to revise the 1990 Standards to reflect the evolving needs of the elections community. This resulted in the 2002 Voting System Standards.

Voters and election officials who use voting systems represent a broad spectrum of the population, and include individuals with disabilities who may have difficulty using traditional voting systems. In developing accessibility provisions for the 2002 Voting System Standards, the FEC requested assistance from the Access Board, the federal agency in the forefront of promulgating accessibility provisions. The Access Board submitted technical standards to meet the diverse needs of voters with a broad range of disabilities. The FEC adopted the entirety of the Access Board's recommendations and incorporated them into the 2002 Voting Systems Standards.

1.3.2 Election Assistance Commission

In 2002, Congress passed the Help America Vote Act, which established the U.S. Election Assistance Commission (EAC). EAC was mandated to develop and adopt new voluntary voting system guidelines and to provide for the testing, certification, and decertification of voting systems. HAVA also established the Technical Guidelines Development Committee (TGDC) with the duty of assisting the EAC in the development of the new guidelines. The Director of NIST chairs the TGDC, and NIST was tasked to provide technical support to their work. The TGDC delivered their initial set of recommendations to the EAC in May, 2005.

The TGDC built on the foundation of the 2002 Voting Systems Standards and the accessibility provisions of HAVA to expand requirements for voting system usability and accessibility. HAVA mandates that voting systems shall be accessible for individuals with disabilities in a manner that provides the same opportunity for access and participation (including privacy and independence) as for other voters. To facilitate the ability of jurisdictions to meet these requirements, HAVA allows for the use of at least one direct recording electronic or other voting system equipped for individuals with disabilities at each polling place. Implementing this provision, however, will not entirely eliminate the necessity of accommodating the needs of some disabled voters by human assistance, given the limitations of current technology.

The 2005 VVSG is the culmination of sixteen months of effort by the TGDC, NIST and the EAC. There is still much to be done to further develop the technical guidelines for voting system performance, accessibility and usability features, and security. Further work is also needed for the specification of comprehensive standard test suites for certification testing, to include testing for usability and accessibility features and expanded security testing.

1.4 Overview of National, State and Local Voting System Testing

1.4.1 The National Certification Program for Voting Systems

The purpose of the national certification program is to validate and document, through an independent testing process, that voting systems meet the requirements set forth in VVSG Volume 1 - Voting System Performance Guidelines, and perform according to the vendor's specifications for the system. Volume 1 specifies the minimum functional requirements, performance characteristics, documentation requirements, and test evaluation criteria that voting systems must meet in order to receive national certification. More than forty [need to get final version of this number] States require that a voting system must have national certification before it can be considered for purchase within that State.

National certification testing can only be performed by testing labs that have been accredited for demonstrated technical competence to test voting systems using these Guidelines. Volume 2 of the VVSG - National Certification Testing Guidelines - provides guidance on the testing process and describes the associated documentation requirements. These tests encompass the examination of software; the inspection and evaluation of system documentation; tests of hardware under conditions simulating the intended storage, operation, transportation, and maintenance environments; operational tests to validate system performance and function under normal and abnormal conditions; and examination of the vendor's system development, testing, quality assurance, and configuration management practices. Certification tests address individual system components or elements, as well as the integrated system as a whole.

Since 1994, testing of voting systems has been performed by Independent Test Authorities (ITAs) certified by the National Association of State Election Directors (NASED). Upon the successful completion of testing, the ITA issued a Qualification Test Report to the vendor and NASED. The Technical Committee of the NASED Voting Systems Board would review the test report and, if satisfactory, issue a Qualification Number. The Qualification Number remains valid for as long as the voting system remains unchanged.

HAVA mandates that the certification testing process be transferred from NASED to EAC. National certification testing complements and evaluates the vendor's developmental testing and beta testing. The test lab is expected to evaluate the completeness of the vendor's developmental test program, including the sufficiency of vendor tests conducted to demonstrate compliance with the Guidelines as well as the system's performance specifications. The test lab undertakes sample testing of the vendor's test modules and also designs independent system-level tests to supplement and check those designed by the vendor. Although some of the certification tests are based on those prescribed in the Military Standards, in most cases the test conditions are less stringent, reflecting commercial, rather than military, practice.

Upon review of test reports and a determination that satisfactory results were achieved that address the full scope of testing, EAC will issue a Certification Number that indicates the system has successfully completed testing by an accredited test lab for compliance with the Guidelines. The Certification Number applies to the system as a whole and does not apply to individual system components or untested configurations.

After a system has completed initial certification testing, further examination of the system is required if modifications are made to hardware, software, or telecommunications, including the installation of software on different hardware. Vendors request review of modifications by the test lab based on the nature and scope of changes made. The test lab will assess whether the modified system should be resubmitted for certification testing and the extent of testing to be conducted and will provide an appropriate recommendation to the EAC and the vendor.

Generally, a voting system remains certified under the standards against which it was tested, as long as no modifications requiring recertification have been made to the system. However, if a new threat to a particular voting system is discovered, it is the prerogative of EAC to

determine which certified voting systems are vulnerable, whether those systems need to be retested, and the specific tests to be conducted. In addition, when new requirements supersede the requirements under which the system was certified, it is the prerogative of EAC to determine when systems that were certified under the earlier requirements will need to be re-tested to meet the current guidelines.

1.4.2 State Certification Testing

State certification tests are performed by individual states, with or without the assistance of outside consultants, to:

- Confirm that the voting system presented is the same as the one certified under the Guidelines
- Test for the proper implementation of state-specific requirements
- Establish a baseline for future evaluations or tests of the system, such as acceptance testing or state review after modifications have been made
- Define acceptance tests

State certification test scripts are not included in the Guidelines, as they must be defined by the state, with its laws, election practices, and needs in mind. However, it is recommended that they not duplicate the national certification tests, but instead focus on functional tests and qualitative assessment to ensure that the system operates in a manner that is acceptable under state law. If a voting system is modified after state certification is completed, it is recommended that states reevaluate the system to determine if further certification testing is warranted.

Certification tests performed by individual states typically rely on information contained in documentation provided by the vendor for system design, installation, operations, required facilities and supplies, personnel support and other aspects of the voting system. States and jurisdictions may define information and documentation requirements additional to those defined in the Guidelines. By design, the Guidelines do not address these additional requirements. However, national certification testing will address all the capabilities of a voting system stated by the vendor in the system documentation submitted withy the testing application to the EAC, including additional capabilities required by the States.

1.4.3 Acceptance Testing

Acceptance tests are performed at the state or local jurisdiction level upon system delivery by the vendor to:

- Confirm that the system delivered is the specific system certified by EAC and, when applicable, certified by the state

- Evaluate the degree to which delivered units conform to both the system characteristics specified in the procurement documentation, and those demonstrated in the national and state certification tests
- Establish a baseline for any future required audits of the system

Some of the operational tests conducted during certification may be repeated during acceptance testing.

1.5 Definitions, References, and Types of Voting Systems

1.5.1 Definitions and References

The Guidelines contain terms describing function, design, documentation, and testing attributes of voting system hardware, software and telecommunications. Unless otherwise specified, the intended sense of technical terms is that which is commonly used by the information technology industry. In some cases terminology is specific to elections or voting systems. A glossary of terms is contained in Appendix A. Non-technical terms not listed in Appendix A shall be interpreted according to their standard dictionary definitions.

There are a number of technical standards that are incorporated in the Guidelines by reference. These are referred to by title in the body of the document. The full citations for these publications are provided in Appendix B. In addition, this appendix includes other references that may be useful for understanding and interpretation.

1.5.2 Types of Voting Systems

HAVA Section 301 defines a voting system as the total combination of mechanical, electromechanical, or electronic equipment (including the software, firmware, and documentation required to program, control, and support the equipment), that is used to define ballots; to cast and count votes; to report or display election results; and to maintain and produce any audit trail information. In addition, a voting system includes the practices and associated documentation used to identify system components and versions of such components; to test the system during its development and maintenance; to maintain records of system errors and defects; to determine specific system changes made after initial certification; and to make available any materials to the voter (such as notices, instructions, forms, or paper ballots).

Traditionally, a voting system has been defined by the mechanism the system uses to cast votes and further categorized by the location where the system tabulates ballots. In addition to defining a common set of requirements that apply to all voting systems, the VVSG states

requirements specific to a particular type of voting system, where appropriate. However, the Guidelines recognize that as the industry develops new solutions and the technology continues to evolve, the distinctions between voting system types may become blurred. The fact that the VVSG refers to specific system types is not intended to stifle innovations that may be based on a more fluid understanding of system types. However, appropriate procedures must be in place to ensure new developments provide the necessary integrity and can be properly evaluated in the certification process.

Consequently, vendors that submit a system that integrates components from more than one traditional system type or a system that includes components or technology not addressed in the Guidelines shall submit the results of all beta tests of the new system when applying for national certification. Vendors shall also submit a proposed test plan to the EAC for use in national certification testing. The Guidelines permit vendors to produce or utilize interoperable components of a voting system that are tested within the full voting system configuration.

The listing below summarizes the functional requirements that HAVA Section 301 mandates to assist voters. While these requirements may be implemented in a different manner for different types of voting systems, all types of voting systems must provide these capabilities:

- permit the voter to verify (in a private and independent manner) the vote selected by the voter on the ballot before the ballot is cast and counted
- provide the voter with the opportunity (in a private and independent manner) to change the ballot or correct any error before the ballot is cast and counted
- notify the voter if he or she has selected more than one candidate for a single office, inform the voter of the effect of casting multiple votes for a single office, and provide the voter an opportunity to correct the ballot before it is cast and counted
- be accessible for individuals with disabilities in a manner that provides the same opportunity for access and participation (including privacy and independence) as for other voters
- provide alternative language accessibility pursuant to Section 203 of the Voting Rights Act

1.5.2.1 Paper-Based Voting System

A Paper-Based Voting System records votes, counts votes, and produces a tabulation of the vote count from votes cast on paper cards or sheets. A marksense (also known as optical scan) voting system allows a voter to record votes by making marks directly on the ballot, usually in voting response locations. Additionally, a paper-based system may allow for the voter's selections to be indicated by marks made on a paper ballot by an electronic input device, as long as such an input device does not independently record, store, or tabulate the voter selections.

1.5.2.2 Direct Recording Electronic Voting System

A Direct Recording Electronic (DRE) Voting System records votes by means of a ballot display provided with mechanical or electro-optical components that can be activated by the voter; that processes data by means of a computer program; and that records voting data and ballot images in memory components. It produces a tabulation of the voting data stored in a removable memory component and as printed copy. The system may also provide a means for transmitting individual ballots or vote totals to a central location for consolidating and reporting results from precincts at the central location.

1.5.2.3 Public Network Direct Recording Electronic Voting System

A Public Network Direct Recording Electronic (DRE) Voting System is an election system that uses electronic ballots and transmits vote data from the polling place to another location over a public network. Vote data may be transmitted as individual ballots as they are cast, periodically as batches of ballots throughout the election day, or as one batch at the close of voting. For purposes of the Guidelines, Public Network DRE Voting Systems are considered a form of DRE Voting System and are subject to the standards applicable to DRE Voting Systems. However, because transmitting vote data over public networks relies on equipment beyond the control of the election authority, the system is subject to additional threats to system integrity and availability. Therefore, additional requirements are applied to provide appropriate security for data transmission.

The use of public networks for transmitting vote data must provide the same level of integrity as other forms of voting systems, and must be accomplished in a manner that precludes three risks to the election process: automated casting of fraudulent votes, automated manipulation of vote counts, and disruption of the voting process such that the system is unavailable to voters during the time period authorized for system use.

1.5.2.4 Precinct Count Voting System

A Precinct Count Voting System is a voting system that tabulates ballots at the polling place. These systems typically tabulate ballots as they are cast and print the results after the close of polling. For DREs, and for some paper-based systems, these systems provide electronic storage of the vote count and may transmit results to a central location over public telecommunication networks.

1.5.2.5 Central Count Voting System

A Central Count Voting System is a voting system that tabulates ballots from multiple precincts at a central location. Voted ballots are typically placed into secure storage at the polling place. Stored ballots are transported or transmitted to a central counting place. The systems produce a printed report of the vote count, and may produce a report stored on electronic media.

1.6 Conformance Clause

1.6.1 Scope and Applicability

The Voluntary Voting System Guidelines define requirements for conformance of voting systems that voting system vendors shall meet. The Guidelines also provide the framework, procedures, and requirements that testing labs responsible for the testing of voting certification systems shall follow. The requirements and procedures in the Guidelines may also be used by States to certify voting systems. To ensure that correct voting system software has been distributed without modification, the Guidelines include requirements for certified voting system software to be deposited in a national software repository. This provides an independent means for election officials to verify the software they purchase.

The Guidelines define the minimum requirements for voting systems and the process of testing voting systems. The guidelines are intended for use by:

- Designers and manufacturers of voting systems
- Test labs performing the analysis and testing of voting systems in support of the EAC national certification process
- National software repositories, either maintained by the National Institute of Standards and Technology (NIST) or by another EAC designated repository
- Election officials, including ballot designers and officials responsible for the installation, operation, and maintenance of voting machines
- Test labs and consultants performing the state certification of voting systems

Minimum requirements specified in these guidelines include:

- Functional capabilities
- Performance characteristics, including security
- Documentation
- Test evaluation criteria

1.6.2 Conformance Framework

This section provides the framework in which conformance is defined. It identifies the entities to which these guidelines apply, the relationships among the various entities, the structure of the requirements, and the terminology used to indicate conformance.

1.6.2.1 Applicable Entities

The requirements, prohibitions, options, and guidance specified in these guidelines apply to voting systems, voting system vendors, test labs, and software repositories.

In general, requirements for voting systems in these guidelines apply to all types of voting systems, unless prefaced with explanatory narrative applicability identifying limited to a specific typed system. Other terms in these guidelines shall be construed as synonymous with "voting systems." They are: "systems", "the system", "the voting system", and "each voting system".

The term "voting system vendor" imposes system documentation or testing requirements for the manufacturer or vendor. Other terms in these guidelines shall be construed as synonymous with "voting system vendor." They are: "vendors", "the vendor", "manufacturer or vendor", "voting system designers", and "implementer".

The terms used to designate requirements and procedural guidelines for national certification testing laboratories are indicated by referring to "testing authorities", "test labs", and "accredited test labs". The term "repository" will be used to designate requirements levied on the National Software Reference Library repository maintained at NIST or any other designated repository.

1.6.2.2 Relationships Among Entities

It is the voting system vendor that needs to implement these requirements and provide the necessary documentation for the system. In order to claim conformance to the Guidelines, the voting system vendor shall satisfy the specified requirements, including implementation of functionality, prescribed software coding and assurance practices, and preparation of the

Technical Data Package. The voting system vendor shall successfully complete the prescribed test campaign with an EAC accredited voting system test lab.

The accredited test lab shall satisfy the requirements for conducting certification testing. The test lab may use an operational environment emulating that used by election officials as part of their testing to ensure that the voting system can be configured and operated in a secure and reliable manner according to the vendor's documentation and as specified by the Guidelines. The test lab shall coordinate and deliver the requisite documentation and final test report to the EAC for review. Upon issuance of a certification number by the EAC, the test lab shall deposit a copy of the certified voting system software with the National Software Reference Library.

The EAC shall review the test results and associated documentation and make a determination that all requirements have been appropriately tested and the test results are acceptable. The EAC will issue a national certification number that indicates conformance of the specified system with these Guidelines.

The National Software Reference Library (NSRL) shall create a digital signature of the voting system software provided by the test lab. This information will be posted to a website so election officials can compare the digital signature of the software provided to them by the voting system vendor with this certified reference. The NSRL shall maintain this reference information until notified by the EAC that it can be archived.

1.6.3 Structure of Requirements

Each voting system requirement in Volume I is identified according to a hierarchical scheme in which higher-level requirements (such as "provide accessibility for visually impaired voters") are supported by lower-level requirements (e.g., "provide an audio-tactile interface"). Thus, requirements are nested. When the nesting hierarchy has reached four levels (i.e. 1.1.1.1), further nested requirements are designated with lowercase letters, then roman numerals, then numbers. Therefore, all requirements are traceable by distinct reference insignia.

Some requirements are directly testable and some are not. The latter tend to be higher-level and are included because 1) they are testable indirectly insofar as their lower-level requirements are testable, and 2) they often provide the structure and rationale for the lower-level requirements. Satisfying the lower-level requirements will result in satisfying the higher-level requirement.

1.6.3.1 Conformance Language

The following keywords are used to convey conformance requirements:

- **Shall –** indicates a mandatory requirement in order to conform. Synonymous with "is required to."
- **Is prohibited** –indicates a mandatory requirement that indicates something that is not permitted, in order to conform. Synonymous with "shall not."
- **Should, is encouraged -** indicates an optional recommended action, one that is particularly suitable, without mentioning or excluding others. Synonymous with "is permitted and recommended."
- **May** - indicates an optional, permissible action. Synonymous with "is permitted."

This text is directly applicable to achieving conformance to this document. Informative parts of this document include examples, extended explanations, and other matter that contain information necessary for proper understanding of the Guidelines and conformance to it.

1.6.3.2 Categorizing Requirements

The Guidelines define a common set of requirements that apply to all types of electronic voting systems for the purpose of acquiring national certification. For example, the requirements implementing the alternative language accessibility mandated by HAVA 301(a) (4) must be met by all voting systems that will be used in instructions subject to Section 203 in USC 1705 of the Voting Rights Act. Conversely, the requirements implementing the other HAVA Section 301(a) mandates, except for disability accessibility must be met by all voting systems.

In addition, the Guidelines categorize some requirements into related groups of functionality to address equipment type, ballot tabulation location, and voting system component (e.g., election management system, voting station). Hence, all of the requirements contained in the Guidelines do not apply to all elements of all voting systems. For example, requirements categorized as applying to DRE systems are not applicable to paper-based voting. The requirements implementing the disability accessibility mandated by HAVA 301(a) (3) (A) are not required of all voting systems, only by those systems the vendor designates as accessible voting systems.

Among the categories defined in the VVSG are two types of voting systems with respect to mechanisms to cast votes – Paper-Based Voting Systems and Direct Recording Electronic (DRE) Voting Systems. Additionally, voting systems are further categorized by the locations where ballots are tabulated – Precinct Count Voting Systems, which tabulate ballots at the polling place, and Central Count Voting Systems, which tabulate ballots from multiple precincts at a central location. The Guidelines define specific requirements for systems that fall within these four categories as well as various combinations of these categories.

1.6.3.3 Extensions

Extensions are additional functions, features, and/or capabilities included in a voting system that are not required by the Guidelines. To accommodate the needs of states that may impose additional requirements and to accommodate changes in technology, these guidelines allow extensions. For example, the requirements for a voter verifiable paper audit trail feature will only be applied to those systems designated by the vendor as providing this feature. The use of extensions shall not contradict nor cause the nonconformance of functionality required by the Guidelines.

1.6.4 Implementation Statement

The voting system implementation statement describes the voting system and documents the VVSG Volume 1 requirements that have been implemented by the voting system. It can also identify optional features and capabilities supported by the voting system, as well as any extensions (i.e., additional functionality beyond what is required in the guidelines). The implementation statement will include a checklist identifying all the requirements for which a claim of conformance is made.

The implementation statement must be submitted with the vendor's application to the EAC for national certification testing. It must provide a concise summary and narrative description of the voting system's capabilities. It shall include identifying information about the voting system, including the hardware and software components, version number and date.

1.7 Effective Date

The Voluntary Voting System Guidelines (VVSG) shall become effective for national certification testing 24 months after their final adoption by EAC. At that time, all new systems submitted for national certification shall be tested for conformance with these Guidelines. In addition, if a modification to a system certified or qualified to a previous standard is submitted for national certification after this date, every component of the modified system shall be tested using these Guidelines. All previous versions of national voting system standards will become obsolete upon this effective date.

These Guidelines are voluntary in that each of the states can decide whether to require the voting systems used in their state to have a national certification. States may decide to adopt these Guidelines in whole or in part at any time, irrespective of the effective date. In addition, States may specify additional requirements that voting systems in their jurisdiction must meet. The national certification program does not in any way pre-empt the ability of the States to have their own system certification process.

This VVSG effective date provision has no effect on the mandatory voting system requirements prescribed in Section 301(a) of the Help America Vote Act (HAVA), which States must comply with on or before January 1, 2006. The EAC issued Advisory 2005-004 to assist States in determining if a voting system is compliant with Section 301(a). This advisory is available on the EAC website at www.eac.gov.