

VOLUNTARY VOTING SYSTEM GUIDELINES DOCUMENT COMPARE OVERVIEW

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Volume I

Voluntary Voting System Guidelines Overview

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Voluntary Voting System Guidelines

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Voluntary Voting System Guidelines Overview

1. Background

The United States Congress passed the Help America Vote Act of 2002 (HAVA) to modernize the administration of federal elections, marking the first time in our nation’s history that the federal government has funded an election reform effort. HAVA provides federal funding to help the States meet the law’s uniform and non-discretionary administrative requirements, which include the following new programs and procedures: 1) provisional voting, 2) voting information, 3) statewide voter registration lists and identification requirements for first-time registrants, 4) administrative complaint procedures, and 5) updated and upgraded voting equipment.

HAVA also established the U.S. Election Assistance Commission (EAC) to administer the federal funding and to provide guidance to the States in their efforts to comply with the HAVA administrative requirements. Section 202 directs the EAC to adopt voluntary voting system guidelines, and to provide for the testing, certification, decertification, and recertification of voting system hardware

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This section provides an overview of the Voluntary Voting System Guidelines (VMSG), Version 1. The VMSG was created in response to the Help America Vote Act (HAVA) of 2002 and is based on the initial set of recommendations of the Technical Guidelines Development Committee (TGDC) mandated by HAVA. The VMSG Version 1 augments the Voting Systems Standard (VSS) of 2002 (VSS-2002), which was promulgated by the Federal Election Commission (FEC). This overview serves as an explanation of how the VMSG Version 1 differs from the VSS-2002 and provides a basis for further improvements. In addition, it provides a high level overview of the major sections of the two volumes that make up VMSG Version 1.

Document Structure

This document presents the voluntary voting system guidelines as a single document consisting of two volumes: Volume I, the performance provisions of the guidelines and Volume II, the testing specification. Sections of this document augment the VSS-2002, by either replacing VSS-2002 sections or adding new sections. New material is indicated by distinct header information on each page. The header information is in a gray shaded box and includes the words “NEW MATERIAL”. The footer information also includes the words “NEW MATERIAL”. Additionally, line numbers have been added to these pages.

In the new sections that contain requirements or informative characteristics, each requirement or characteristic is numbered according to a hierarchical scheme in which higher-level requirements (such as “pro... [1]

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and software. The purpose of 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.

This document, the Voluntary Voting System Guidelines, is the third iteration of national level voting system standards that has been developed. The Federal Election Commission published the Performance and Test Standards for Punchcard, Marksense and Direct Recording Electronic Voting Systems in 1990. This was followed by the Voting Systems Standards in 2002.

As required by HAVA, the EAC formed the Technical Guidelines Development Committee (TGDC) to develop an initial set of recommendations for the Guidelines. This committee of 15 experts began their work in July 2004 and submitted their recommendations to the EAC in the 9-month timeline prescribed by HAVA. The TGDC was provided with technical support by the National Institute for Standards and Technology (NIST), who was given nearly \$3 million dollars by the EAC to complete this work. This funding represents the first time the federal government has spent a significant amount of funds on setting guidelines for voting systems. These latest Guidelines update and augment the 2002 Voting Systems Standards to address increasingly complex voting system technology. Specifically, the 2005 Guidelines address the critical topics of accessibility, usability, and security.

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These Guidelines are voluntary. States may adopt them in whole, in part, or not at all. States may also choose to enact stricter performance requirements for certifying their voting systems.

2. Effective Date

These Guidelines shall become effective 24 months after their final adoption by the EAC. At that time, every component of every system submitted for national certification testing shall be tested for conformance with these Guidelines. Adoption of these Guidelines is voluntary, so during this 24-month period, States may adopt these Guidelines in whole or in part at any time, and thereby require their systems to meet these Guidelines. However, the effective date provision does not apply to the HAVA Section 301(a) mandatory requirements, which all States must comply with by January 1, 2006.

Summary of Changes

Volume I of the Guidelines, entitled "Voting System Performance Guidelines," includes new requirements for accessibility, voting system software distribution, system setup validation, and the use of wireless communications. This volume also includes a set of

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VVSG Version 1 is intended to assist State election officials in preparing for the 2006 election. This document augments the VSS-2002 to

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Deleted:) that will address a large range of issues including rewriting the requirements, if necessary, to make them more precise and testable and address key human factors and computer security issues. These new requirements will affect the basic design of voting systems to such a degree that these types of changes cannot reasonably be made and tested in time for the 2006 election cycle. .

Brief History of Voting Systems Standards and Guidelines .

In 1975, the National Bureau of Standards (now the National Institute of Standards and Technology) and the Office of the Federal Elections (the Office of Election Administration's predecessor at the General Accounting Office) produced a joint report, Effective Use of Computing Technology in Vote Tallying. This report concluded that a basic cause of computer-related election problems was the lack of appropriate technical skills at the state and local level to develop or implement sophisticated Standards against which voting system hardware and software could be tested. A subsequent Congressionally-authorized study produced by the FEC and the National Bureau of Standards detailed the need for a federal agency to develop national performance Standards. ... [2]

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optional requirements for a Voter Verified Paper Audit Trail component for Direct Recording Electronic voting systems for use by those States that have decided to require this feature for their voting systems. In addition, this volume includes an updated glossary and a conformance clause.

Volume II of the Guidelines, entitled “Voting System National Certification Guidelines,” has been revised to reflect the new EAC process for national certification of voting systems. This process will go into effect in 2005 and will replace the voting system qualification process that has been conducted by the National Association of State Election Directors since 1994. Volume II also includes an updated appendix on procedures for testing system error rates. Terminology in both volumes has been revised to reflect new terminology introduced by HAVA.

3. Volume I Summary

Volume I, the Voting System Performance Guidelines, describes the requirements for the electronic components of voting systems. It is intended for use by the broadest audience, including voting system developers, manufacturers and suppliers; voting system testing labs; state organizations that certify systems prior to procurement; state and local election officials who procure and deploy voting systems; and public interest organizations that have an interest in voting systems and voting system standards. It contains the following sections:

- Section 2 describes the functional capabilities required of voting systems.

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- Sections 3 through 6 describe specific performance standards for election system hardware, software, telecommunications, and security.

- Sections 7 and 8 describe requirements for vendor quality assurance and configuration management practices and the documentation required about these practices for the certification process.

- Appendix A contains a glossary of terms.

- Appendix B provides a list of documents incorporated into the Guidelines by reference, as well as documents used in the preparation of the Guidelines.

- Appendix C contains best practices for election officials regarding accessibility, paper audit trails, and wireless.

- Appendix D presents an informational discussion of independent dual verification as a potential concept for future voting system security design.

Deleted: document is generally referred to as the Voting Systems Standards, or 1990 VSS.

The national testing effort was developed and overseen

Deleted: Director's Voting Systems Board, which is composed of election officials and independent technical advisors. NASED's testing program was initiated in

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- Appendix E contains the NASED Voting System Standards Board Technical Guide #1 on color and contrast adjustment for individuals with low vision or color blindness.

4. Volume II Summary

Volume II, the Voting System National Certification Testing Guidelines, is a complementary document to Volume I. Volume II provides an overview and specific detail of the national certification testing process, which is performed by independent voting system test labs accredited by the EAC. It is intended principally for use by vendors, test labs, and election officials who certify, procure, and accept voting systems. This volume contains the following sections:

- Section 2 provides a description of the Technical Data Package that vendors are required to submit with their system for certification testing.
- Section 3 describes the basic functionality testing requirements.
- Sections 4 through 6 define the requirements for hardware, software and system integration testing.
- Section 7 describes the required examination of vendor quality assurance and configuration management practices.

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- Appendix A provides the requirements for the National Certification Test Plan that is prepared by the voting system test lab and provided to the EAC for review.

- Appendix B describes the scope and content of the National Certification Test Report which is prepared by the test lab and delivered to the EAC along with a recommendation for certification.

- Appendix C describes the guiding principles used to design the voting system certification testing process. It also contains a revised section on testing system error rates.

5. Public Comment Process

The Voluntary Voting System Guidelines is provided for comment by the public for the next 90 days. During this time, the document is available in both PDF and HTML formats on the EAC website at www.eac.gov. The document is also available in hard copy and CD-ROM formats. Call the EAC at (202) 566-3100 to request a copy.

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The EAC website contains instructions for how to submit comments. For ease of processing it is preferred that comments be submitted electronically to a special email box: votingsystemguidelines@eac.gov. They may also be mailed to: Voting System Guidelines Comments, U.S. Election Assistance Commission, 1225 New York Avenue, N.W., Suite 1100, Washington DC 20005.

The format of the Guidelines is intended to facilitate ease of identifying new information and comparison with the 2002 Voting Systems Standards. New material is indicated by a gray-shaded header with the words “NEW MATERIAL.” and includes line numbers. Material essentially carried forward in its entirety from the 2002 Voting Systems Standards remains in its original format and does not include line numbers. Selected portions of this material have been revised to reflect the EAC process for voting system certification, specifically Volume I, Section 1.6.1, and Volume II Section 1. Updates have been made throughout to include new terminology introduced by HAVA.

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Voter Verified Paper Audit Trails .

The VSS-2002 contained no requirements for voter verified paper audit trails. The VVSG Version 1 is providing requirements for voter verified paper audit trails (VVPAT) so t... [3]

Deleted: use of this repository and other validation mechanisms. .

Glossary . .

This glossary contains terms from the V... [4]

Deleted: forms the basis for understanding requirements and for discussing improvements. The glossary is also available in a web-based on-line version at <http://www.nist.gov/votingglossary>. .

... [5]

Deleted: the system, defined as a ballot position error rate, and not by a voter's action. Further research on human interface and usability issues is needed to enable the development of Standards for error rates that account for human error. .

... [6]

Deleted: tasks the Director of NIST to assist the EAC by recommending laboratories for EAC accreditation. NIST's National Voluntary Laboratory Accreditation Program (NVLAP) is developing a program to evaluate competent laboratories. While laborato... [7]

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- . Absolute correctness of all ballot processing software, for which no margin for error exists, .
- . Operational accuracy in the recording and processing of voting data, as measured by the error rate articulated in Volume I, Secti... [8]