



## Voting System Standards

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This document is part of Agenda Document Number 01-62 on the agenda for consideration at the December 13, 2001, meeting of the Federal Election Commission.

1 **FEDERAL ELECTION COMMISSION**

2 **[NOTICE 2001 - ]**

3 **VOLUNTARY STANDARDS FOR COMPUTERIZED VOTING SYSTEMS**

4  
5 **AGENCY:** Federal Election Commission

6 **ACTION:** Notice with request for comments

7 **SUMMARY:** The Federal Election Commission (the "FEC") requests comments on the second  
8 draft of the revisions to the 1990 national voluntary performance standards for  
9 computerized voting systems and the first draft of the revisions to the 1990 national  
10 test standards. Please note that these drafts do not represent a final decision by the  
11 Commission. The FEC will publish a notice when both volumes of the final revised  
12 standards are issued. Note also that the text of the final documents will not become  
13 part of the Code of the Federal Regulations because they are intended only as  
14 guidelines for states and voting system vendors. States may mandate the  
15 specifications and procedures through their own statutes, regulations, or  
16 administrative rules. Voting system vendors may voluntarily adhere to the standards  
17 to ensure the reliability, accuracy, and integrity of their products. Further  
18 information is provided in the supplementary information that follows.

19 **DATE:** Comments must be received on or before February 1, 2002.

20 **ADDRESSES:** Copies of the draft revised performance and test standards may be found on the  
21 Federal Election Commission's web site at [www.fec.gov/elections.html](http://www.fec.gov/elections.html), or may be  
22 requested by contacting the Office of Election Administration, Federal Election  
23 Commission, 999 E. Street, N.W., Washington, D.C. 20463. They may also be  
24 requested in person at the Office of Election Administration, 800 N. Capital St.,  
25 N.W., Washington, D.C., Suite 600.

1 All comments should be addressed to Ms. Penelope Bonsall, Director, Office of  
2 Election Administration, and must be submitted in either written or electronic form.  
3 Because no anonymous submissions will be considered, all submissions must include  
4 the commenters full name, postal mail address, and electronic mail address if  
5 submitted by e-mail. Written comments should be sent to the Office of Election  
6 Administration, Federal Election Commission, 999 E. Street, N.W., Washington,  
7 D.C., 20463. Faxed comments should be sent to (202) 219-8500, although it is  
8 advisable to send a printed copy to ensure legibility. . Comments can be submitted  
9 electronically to vss@fec.gov. It is suggested that electronic comments submitted as  
10 attachments use Microsoft Word and that all comments avoid the use of special  
11 characters or encryption. Comments can be submitted through the close of business  
12 on February 1, 2001

13 **FOR FURTHER**  
14 **INFORMATION**

15 **CONTACT:** Ms. Penelope Bonsall, Director, Office of Election Administration, 999 E. Street,  
16 N.W., Washington, DC 20463; Telephone: (202) 694-1095; Toll free (800) 424-  
17 9530, extension 1095.

18 **SUPPLEMENTARY**  
19 **INFORMATION:**

20 In 1990, the FEC and its Office of Election Administration promulgated  
21 standards for computerized election equipment pursuant to its responsibilities under 2 U.S.C 438(a)(10),  
22 which requires the FEC to “serve as a national clearinghouse for the compilation and review of  
23 procedures with respect to the administration of Federal elections.” The resulting product is the Voting  
24 System Standards (the “Standards”). Although voluntary, the Standards have been adopted in 37 states in  
25 whole or in part and are used to design systems and procure equipment to meet the needs of diverse  
jurisdictions serving a wide variety of voting populations and election formats.

26 The Standards are designed to provide technical specifications and documentation requirements  
27 to vendors that intend to sell systems in the states that require compliance with the Standards. In order to

1 show compliance, a vendor must submit its system for qualification testing. The qualification testing is  
2 done through an Independent Testing Authority (“ITA”) that has been certified by the National  
3 Association of State Election Directors (“NASED”). Once a system has completed the ITA process, it  
4 receives a NASED Qualified identification number. In order to maintain its status as a NASED qualified  
5 system, the hardware and software must be identical to the hardware and software tested by the ITA.

6 The Standards are designed to guide development of computerized voting systems. To this  
7 extent, the only voting systems that are addressed in the Standards are electronic DRE systems and paper-  
8 based systems that utilize electronic technology to count ballots. The Standards do not address lever  
9 machines systems, as there are currently no manufactures that design systems using such machines.

10 Periodic revisions to the Standards are necessary to reflect the development of emerging  
11 technology in voting systems and design innovations. Increasingly, voting system vendors are designing  
12 systems that use electronic and telecommunications components not addressed in the original standards.  
13 As a result, proposed revisions have been developed by the FEC that reflect the technologies  
14 contemplated by the voting system industry. Also, the Standards acknowledge the impact of the  
15 Americans with Disabilities Act and provides specifications so that voting system vendors can design  
16 systems that allow a voter with a disability to exercise his or her democratically protected right to vote.

17 Additionally, the revised Standards incorporate a broadened understanding of what constitutes a  
18 voting system by including not just the machine used by voters to cast ballots, but also certain  
19 components of the Election Management System (EMS), the telecommunications system (where  
20 applicable), and the ballot counting system. The revised Standards augment the requirements for the  
21 EMS, addressing preparation of the ballot, election-specific coding of software, and vote consolidation  
22 and reporting processes. The Standards does not provide guidance to computerized election database  
23 systems that are not part of the voting system itself. Such systems include voter registration databases  
24 and other consolidated databases used by election officials. The FEC’s Office of Election Administration

1 has produced other documents, available upon request, that can assist election officials and other  
2 interested party in developing and maintaining such systems.

3 The FEC recognizes that human interface considerations are an integral part of developing an  
4 accurate, reliable voting system. The FEC has allocated funds to investigate human factors issues and is  
5 developing specifications that can be used in conjunction with both the Standards and other FEC  
6 operational and management guidelines to ensure that human factors considerations are given an  
7 important place in the development and procurement of voting systems.

8 The 1990 Standards were released as a single volume. However, the new Standards are divided  
9 into two volumes, both included for this release. Volume I provides functional and technical  
10 requirements for a number of system types and configurations. Volume II provides testing specifications  
11 for the requirements of Volume I.

12 On July 21, 2001, the Commission published a notice requesting comments on the first draft of  
13 Volume I of the revised Standards (66 FR 35978). Public comment was significant in both volume and  
14 content. Over 350 comments from over 40 commentators provided ideas and approaches to the Standards  
15 that greatly enhance their use by vendors, election officials, and voters. Because of this feedback,  
16 substantive changes were made to Volume I and a second draft of this document is being released for  
17 additional public comment. Although many of the comments on Volume I were helpful in devising the  
18 content of Volume II, this will be the first opportunity for the public to comment on its specific content.

19 The documents released with this notice include an Overview document, Volume I of the  
20 Standards (containing nine sections and three appendices), and Volume II of the Standards (containing  
21 seven sections and four appendices). The overview document explains in detail the history of the  
22 Standards project, provides a description of how the Standards fit into election vending process, and gives  
23 an explanation of the reasoning behind the inclusions and exclusions of various systems, requirements,  
24 and test methods. Volume I of the Standards contains functional requirements (Section 2) that outline  
25 system benchmarks. The Standards also anticipate an increased demand for equipment that meets the

1 needs of people with disabilities. In order to address and facilitate these needs, the FEC, in consultation  
2 with the Access Board, has provided specific requirements for systems (Section 2.6) allowing vendors to  
3 develop systems that increase accessibility to voters with disabilities.

4 The Standards provide specific requirements for system software (Section 3) and hardware  
5 (Section 4). Additionally, the Standards anticipate that voting systems will move increasingly towards  
6 the use of telecommunications to cast ballots, consolidate vote data, and report results. As such, two  
7 sections of Volume I of the Standards outline requirements to guide selection of proper  
8 telecommunications equipment (Section 5) and ensure that the introduction of telecommunications  
9 equipment does not compromise the security and secrecy demanded by the election process (Section 6).  
10 Section 6 also addresses security and secrecy requirements for a voting system's software, hardware, and  
11 administrative procedures (as specified by the vendor).

12 Volume I of the Standards also provides information on quality assurance (Section 7) and  
13 configuration management issues (Section 8). These sections are tailored towards the unique needs of the  
14 election system industry, and are designed to provide guidance in sound management practices without  
15 posing an undue burden on small companies that have traditionally formed the backbone of the election  
16 system industry.

17 Section 9 of Volume I of the Standards provides an introduction and overview to the testing  
18 process necessary for a system to be qualified. The testing processes and specifications themselves are  
19 found in the body of Volume II.

20 Ultimately, the Standards are only a component of the necessary steps to ensure reliable, accurate,  
21 and secure elections. A qualified system has passed certain benchmarks for accuracy and reliability, but  
22 this is not sufficient to ensure overall system reliability unless jurisdictions who purchase the system use  
23 sound procurement and management practices to ensure that the system's security, accuracy, and  
24 reliability are protected during the election cycle itself. Because such practices are related to the actions  
25 of voting officials rather than vendors, they are clearly outside the scope of the Standards. However, the

1 Standards mandate a significant number of disclosure from vendors in order to provide a clear  
2 understanding to election officials of how the system can be optimally operated.

3 The FEC invites all interested parties to submit comments. It is requested that each commenter  
4 indicate is he or she is willing to appear before the Commission. The FEC asks that, where appropriate,  
5 submitted comments reference specific sections of the Standards that are germane to the submitted  
6 comment. Additionally, the FEC requests that comments regarding specific content be accompanied by  
7 specific suggestions for alterations to language or technical specifications, so that the Commission may  
8 consider alterations that best reflect the intent of the commenter. Comments suggesting the use of  
9 alternate industry standards should provide the standard industry reference.

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Danny L. McDonald  
Chairman  
Federal Election Commission

DATED: \_\_\_\_\_  
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