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*Federal Voting Systems Standards and Guidelines:
Congressional Deliberations*

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Federal Voting Systems Standards and Guidelines: Congressional Deliberations

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Summary

This report discusses deliberations and issues relating to the Federal Election Commission's (FEC) Voluntary Voting System Standards (VSS) and their replacement, the Voluntary Voting System Guidelines (VVSG). States, not the federal government, regulate the voting technologies they use. However, in response to concerns raised in the 1970s and 1980s about the then largely unregulated voting technology industry, Congress funded development by the FEC of voluntary standards for computer-based voting systems but did not establish them specifically by statute. Legislation directing the FEC to perform a study on the VSS was enacted in 1979. The study was released in 1984. The VSS themselves were approved in 1990. They were developed for both hardware and software and included functional and documentation requirements, performance characteristics, and testing procedures. A certification program was established in 1994 by National Association of State Election Directors (NASED). It used independent testing authorities (ITAs) to evaluate hardware and software. Most states have adopted the VSS in whole or in part. Some may nevertheless have older voting systems in use that have not been certified, such as paper ballots, lever machines, and some older computer-based systems. An update of the VSS was completed in 2002. The Help America Vote Act of 2002 (HAVA, P.L. 107-252) codified the standards, now called guidelines, and provides a mechanism for regular updating of them by the Election Assistance Commission (EAC) established by the act. The EAC is also responsible for administering voluntary certification of voting systems by independent testing laboratories, replacing the NASED program. HAVA also gives the National Institute of Standards and Technology (NIST) a substantial advisory role in the development of the VVSG and accreditation of testing laboratories. This report will be updated in response to relevant events. See also CRS Report RS20898, *Elections Reform: Overview and Issues*.

Development of the VSS can be divided into four stages: the original voting system standards study (1977-1984), the development of the actual standards (1984-1990), the update of the standards (1997-2002), and replacement by the VVSG (2002-present). Overall, there was relatively little congressional debate or discussion of this topic in

available records before the 2000 election.¹ The work of the FEC on voting system standards had been part of its broader portfolio on election administration, performed by its Office of Election Administration (OEA), formerly called the Clearinghouse. A recurring issue in those earlier discussions was the appropriate level of priority for the FEC's election administration activities in light of its other responsibilities. As a result of that debate and other factors, the election administration activities of the FEC were significantly constrained.

Voting System Standards Study

In January 1977, an FEC advisory panel recommended the development of voluntary standards.² Legislative language on a study of the matter was first proposed in the 95th Congress as a floor amendment to S. 926, a bill to provide for public financing of Senate elections.³ It directed the FEC to conduct a study on "...future development of voluntary engineering and procedural performance standards for voting systems..." in cooperation with the National Bureau of Standards (now the National Institute of Standards and Technology, NIST). An impetus for the initiative was a contested 1974 Senate election in New Hampshire in which malfunctions of lever machines were reported.⁴ The amendment was adopted and the bill passed the Senate but was not taken up by the House.

The study was next considered during the 96th Congress as part of the deliberations on H.R. 5010, Federal Election Campaign Act Amendments of 1979. The study was not included in the House version of the bill or discussed in the House Administration Committee report⁵ or hearings the committee held between March and July 1979.⁶ In fact, the House version narrowed the responsibilities of the Clearinghouse from the administration of elections to the administration of the Federal Election Campaign Act (FECA).⁷ Such a narrowing would have reduced the ability of the FEC to perform studies such as that proposed for voting system standards. While the Committee did not explain

¹ In developing this report, The Congressional Record from the 95th through the 106th Congress was examined, as well as records of hearings and reports on relevant bills.

² Congressional Record, 95th Congress, 1977, 26285.

³ Congressional Record, 95th Congress, 1977, 26012.

⁴ Ibid.

⁵ House Committee on House Administration, Federal Election Campaign Act Amendments of 1979, 96th Congress, 1st sess., September 7, 1979, H.Rept. 96-422.

⁶ ———, Public Financing of Congressional Elections: Hearings on H.R. 1 and Related Legislation, Parts I and II, 96th Congress, 1st sess., 1979.

⁷ Ibid., 24. The clearinghouse function was originally established in the General Accounting Office by the Federal Election Campaign Act of 1971, P.L. 92-225. Its scope included providing information and performing studies "in respect to the administration of elections" (86 Stat. 20). The Federal Election Campaign Act Amendments of 1974 (P.L. 93-443) created the FEC and placed the Clearinghouse within it. In 1996, the FEC renamed the Clearinghouse the Office of Election Administration.

the rationale for this change in its report on H.R. 5010, its report on an earlier bill, S. 832,⁸ on FEC authorization, questioned “the Commission placing priority on the funding of studies which do not relate to Federal responsibilities — such as redistricting — over funding for its basic statutory responsibilities.”⁹ H.R. 5010 passed the House on September 10, 1979, with some concern about the narrowing of scope noted in floor debate.¹⁰

In July, the Senate Committee on Rules and Administration had also held hearings on amending FECA. Two draft bills discussed by the committee included language originally proposed by Senator Cannon in 1977, along with some background information, although the voting system study itself was apparently not discussed during committee deliberations.¹¹ The committee then marked up and reported S. 1757, which retained the language on the study.¹² When the Senate considered H.R. 5010, it amended the bill by substituting a version that included language from H.R. 5010 as well as from S. 1757.¹³ The substitute contained the study language and restored much of the scope of Clearinghouse activities but limited the focus to federal elections.¹⁴ The language on the study included an additional requirement that the FEC absorb the costs.¹⁵ The amended bill passed the Senate and House and was signed into law (P.L. 96-187) on January 8, 1980.

Also in 1980, P.L. 96-253 was enacted, authorizing FEC appropriations for FY1981. That reauthorization limited the budget of the Clearinghouse to \$400,000, a substantial reduction from the previous budget of approximately \$750,000. That was the result of a House amendment to the original Senate version of the bill (S. 2648).¹⁶ The House Administration Committee report explained the reduction using similar reasons as it had in the report on S. 832 the previous year.¹⁷ For FY1982, the FEC requested \$68,000 for

⁸ S. 832 passed the Senate and the House (amended) but died in conference.

⁹ House Committee on House Administration, Amending Federal Elections Campaign Act, 96th Congress, 1st sess., August 2, 1979, H.Rept. 96-408, 2-3.

¹⁰ Congressional Record, 96th Congress, 1979, 23815.

¹¹ Senate Committee on Rules and Administration, Federal Election Campaign Act Amendments, 1979: Hearing, 96th Congress, 1st sess., 1979, 93, 101, 136, 143.

¹² ——— —, Federal Election Campaign Act Amendments of 1979, 96th Congress, 1st sess., 17 September 1979, S.Rept. 96-319, 14.

¹³ Congressional Record, 96th Congress, 1979, 36753.

¹⁴ Specifically, the new scope was “the compilation of information and review of procedures with respect to the administration of Federal elections” (93 Stat. 1363).

¹⁵ “The cost of the study shall be paid out of any funds otherwise available to defray the expenses of the Commission” (Congressional Record, 96th Congress, 1979, 36753).

¹⁶ Senate Committee on Rules and Administration, Authorizing Appropriations for the Federal Election Commission for Fiscal Year 1981, 96th Congress, 2nd sess., May 2, 1980, S.Rept. 96-679. P.L. 96-253 was the last FEC reauthorization bill enacted into law to date.

¹⁷ House Committee on House Administration, Authorization of Appropriations for Federal Election Commission for Fiscal Year 1981, 96th Congress, 2nd sess., May 8, 1980, H.Rept. 96-929,

the study, pointing out that resource limitations had prevented the FEC from doing more than conducting a survey of state and local elections officials.¹⁸ However, the Clearinghouse budget was reduced for FY1982, and for FY1983, the FEC requested \$50,000 for the study.¹⁹ It was completed in 1984 and transmitted to Congress in April.²⁰ It called for the development of voluntary standards for voting systems.

Development of the Voting Systems Standards

For FY1984, the FEC requested \$163,300 to contract for development of the standards themselves.²¹ It set aside \$60,000 for the project from FY1984 funds and requested \$95,000 for FY1985 to complete it.²² The funding was approved.²³ For FY1987, the FEC requested but did not receive additional authorized funds to develop standards for DREs, which had recently been introduced.²⁴ The final version of the

¹⁷ (...continued)
2-3.

¹⁸ House Committee on Appropriations, Subcommittee on Treasury, Postal Service, and General Government, Treasury, Postal Service, and General Government Appropriations for Fiscal Year 1982: Hearings, Part 4, 97th Congress, 1st sess., 1981, 471; Senate Committee on Appropriations, Subcommittee on Treasury, Postal Service, and General Government, Treasury, Postal Service, and General Government Appropriations for Fiscal Year 1982: Hearings, 97th Congress, 1st sess., 1981, 541.

¹⁹ House Committee on Appropriations, Subcommittee on Treasury, Postal Service, and General Government, Treasury, Postal Service, and General Government Appropriations for Fiscal Year 1983: Hearings, 97th Congress, 2nd sess., 1982, 418.

²⁰ Congressional Record, 98th Congress, daily ed., April 9, 1984, H2508; *ibid.*, April 12, 1984, S4582.

²¹ House Committee on Appropriations, Subcommittee on Treasury, Postal Service, and General Government, Treasury, Postal Service, and General Government Appropriations for Fiscal Year 1984: Hearings, Part 4, 98th Congress, 1st sess., 1983, 855, 928.

²² House Committee on Appropriations, Subcommittee on Treasury, Postal Service, and General Government, Treasury, Postal Service, and General Government Appropriations for Fiscal Year 1985: Hearings, Part 4, 98th Congress, 2nd sess., 1984, 317, 348.

²³ The funding was included in H.R. 5798, the Treasury appropriations bill for FY1985 (House Committee on Appropriations, Treasury, Postal Service, and General Government Appropriation Bill, 1985, 98th Congress, 2nd sess., June 7, 1984, H.Rept. 98-830, 42). A conference report on this bill was passed by the House (H.Rept. 98-993) and included by reference in P.L. 98-473 (H.J.Res. 648). While the conference report did not specifically reference the request, it contained a larger appropriation for the FEC than the original House-passed bill (Conference Committee, Treasury, Postal Service, and General Government Appropriations for Fiscal Year 1985, 98th Congress, 2nd sess., 1984, H.Rept. 993, 9). The House Administration Committee had also concurred in granting the requested funding for the standards (House Committee on House Administration, Authorization of Appropriations for Federal Election Commission for Fiscal Year 1985, 98th Congress, 2nd sess., May 15, 1984, H.Rept. 98-749, 4. Rep. Allan B. Swift, remarks in the House, Congressional Record, 98th Congress, daily ed., June 18, 1984, H5959).

²⁴ House Committee on House Administration, Federal Election Commission Authorization of
(continued...)

standards was released in April 1990, but the FEC noted that several states had previously implemented portions of the earlier draft standards.²⁵

The FEC developed a plan to implement the VSS through cooperative action by the FEC, NIST, a set of laboratories called the independent test authorities (ITAs), state and local governments, and voting system vendors. Under the plan, states would adopt the standards and the ITAs would test voting systems to determine whether they met the standards. NIST's intended role was in accreditation of the ITAs. However, the plan did not materialize as originally conceived. Instead, the National Association of State Election Directors (NASED), which was established in 1989, appointed a voting systems board to choose ITAs and administer a process for qualifying voting systems under the VSS. The testing program began in 1994. NASED chose The Election Center, a professional organization of election officials, to serve as the secretariat for voting system qualification.

Updating the Standards

The FEC began a project to update the standards in FY1997, in response to a NASED assessment that changes in technology and issues relating to testing required revision of the first version. The process received little congressional attention until after the November 2000 federal election (see below). The FEC released draft standards for public comment in 2001 and the final version in May 2002. The total cost was approximately \$700,000. The revision took a broader approach than the original version, focusing on the voting medium — paper-based versus electronic — rather than specific kinds of voting systems. It also included new or expanded coverage of some functions and requirements. They included accessibility, feedback to the voter, election management, audit trails, and broadcasting of unofficial results — all of which were part of the congressional debate occurring at that time on election reform — as well as telecommunications and certain testing issues.

Replacement of the Standards with the Guidelines

In the aftermath of the November 2000 federal election, the process by which the VSS were developed and implemented became a subject of debate. While some observers argued that the existing process worked well, others raised criticisms such as the following:

- The standards did not address several important aspects of election administration. (The revision addressed some, but not all, of those concerns.)
- The approach to developing the standards did not follow best practices in this area, as promulgated and practiced by standards organizations

²⁴ (...continued)

Appropriations for Fiscal Year 1987, 99th Congress. 2nd sess., June 12, 1986, H.Rept. 99-637, 2-3.

²⁵ House Committee on House Administration, Subcommittee on Elections, Hearing and Markup on H.R. 4116, Federal Election Commission Authorization, Fiscal Year 1993, February 26, 1992, 50-51.

such as the American National Standards Institute (ANSI), and the Institute of Electrical and Electronics Engineers (IEEE).

- The qualification process created bottlenecks in certifying new systems.
- The VSS focused too much on engineering rather than performance and impeded the development of new kinds of voting technology.
- The voluntary nature of the standards at the federal level led to insufficient and inconsistent application by state and local governments.

The House Science Committee held hearings on May 22, 2001, on the role of voting system standards in improving voting technology and subsequently reported H.R. 2275, the Voting Technology Standards Act of 2001 (H.Rept. 107-263). The bill would have established a commission, chaired by the Director of NIST, to develop new standards. NIST would also accredit testing laboratories and perform research and development. The House Administration Committee reported H.R. 3295, the Help America Vote Act (H.Rept. 107-329), and the House passed that bill on December 12. It established the EAC to replace the OEA and provided a statutory basis and process for development of the federal voluntary VSS and certification of voting systems, with a major advisory role for NIST, including the establishment of a technical committee to revise the VSS. The Senate-passed version of H.R. 3295 did not establish a mechanism for development of voluntary standards but did require consultation with NIST and the Architectural and Transportation Barriers Compliance Board in any revisions to the VSS. It also established a set of requirements for voting systems involving audits, accessibility, machine error, and prevention of voter error. The enacted version of HAVA contained the requirements from the Senate bill and the mechanisms from the House bill for development of voluntary standards, now called guidelines, and certification of voting systems. HAVA did not, however, specifically authorize funding for NIST's involvement, and the development of the VVSG was delayed for several months in part for that reason.

Work on development of the first version of the VVSG, a partial revision of the VSS, began in 2004 with the appointment of the technical committee. A draft was released for public comment in June 2005. Most of the language was unchanged from the 2002 version of the VSS. Major changes included the following:

- addition of a conformance section, which describes in general terms those entities expected to conform to the guidelines and what is required of them;
- revised and new standards for accessibility and usability (human factors);
- revised standards for security, including wireless communications, software distribution and validation, and voter-verified paper ballots used with DREs;
- some changes to testing procedures with respect to machine error; and
- discussion of certain best practices for election officials and of some alternative methods for ballot verification by voters.

Work has also begun on a second version of the VVSG, which would be a complete revision.

The EAC also has adopted a framework for assuming responsibility from NASED for certification of voting systems. NIST has produced a draft handbook for laboratories seeking accreditation and established application procedures.