

History of the Voting System Standards Program

(as of November 1998)

During the 1970's, nearly anyone could cobble together a "voting machine", and sell it to local election officials. Few States had any guidelines for testing or evaluating these devices. Local officials either had to take the salesman's word that the system worked or else depend on the opinion of colleagues who had already bought it. Voting equipment horror stories -- some of them funny, some of them downright chilling -- soon began circulating through the election community. They triggered concerns about the integrity of the voting process.

In February 1975, the General Accounting Office's Office of Federal Elections (predecessor to the Federal Election Commission) signed an interagency agreement with the National Bureau of Standards to develop operational guidelines that election administrators could use to help ensure the accuracy and security of the computer-based vote-tallying process. The resulting March 1975 report, *Effective Use of Computing Technology in Vote-Tallying*, concluded that one of the basic causes for computer-related election problems was the lack of appropriate technical skills at the State and local level for developing or implementing written standards, against which voting system hardware and software could be evaluated.

This report and comments from State and local election officials led the U.S. Congress to direct the Federal Election Commission (FEC), in conjunction with the National Bureau of Standards (now known as the National Institute of Standards and Technology), to conduct a study on the feasibility of developing voluntary engineering and procedural performance standards for voting systems used in the United States. In early 1984, this three-year effort produced *Voting System Standards: A Report on the Feasibility of Developing Voluntary Standards for Voting Equipment*.

Based on the recommendations in that report, Congress appropriated funds permitting the Commission to begin developing voluntary national standards for computer-based voting systems. The FEC began the process in July 1984, and completed it with the Commission's approval in January 1990 of the first national performance and test standards for punchcard, marksense, and direct recording

electronic voting systems. More than 130 State and local election officials, independent technical experts, vendors, Congressional staff, and others participated in the effort to produce this document. The FEC spent \$285,000 on four contracts over the course of this effort.

Over an extended period of time after the publication of these standards, the National Association of State Election Directors (NASED) established a process by which vendors could submit their equipment to independent test authorities for evaluation against the national standards. Wyle Laboratories and Nichols Research Corporation are currently certified by NASED to test hardware and examine software. To date, seven vendors have submitted twelve full voting system models or system components to these test authorities for qualification testing. The resulting test reports can be used by States and local jurisdictions as a foundation for assessing system integrity, accuracy, and reliability.

This national testing effort is overseen by NASED's Voting System Committee, which is composed of election officials, independent technical advisors, and the FEC's former contractor for the standards project. The FEC's Director of the Office of Election Administration and representatives of Wyle and Nichols are ex-officio members. The Executive Director of the Election Center, a non-governmental entity with member State and local election officials and election product vendors, serves as Secretariat to the committee.

As the qualification testing process evolved and tested systems were used in the field, NASED's Voting Systems Committee identified standards and testing issues that needed to be resolved. In February of 1997, Christopher Thomas, then President of NASED, and Thomas Wilkey, Chairman of NASED's Voting Systems Committee, briefed Commissioners on the need for continuing FEC involvement to address standards and testing issues raised by the independent test authorities, as well as to keep the national standards up-to-date. The current voting system standards do not, for example, address system components and configurations that relate to telecommunications, off-the-shelf hardware, newer practices in software design, or developments to assist the visually impaired in voting.

Subsequently, the Commission agreed both to continued participation in the standards program, pending the outcome of an alternatives analysis to assess the fiscal impact of making needed changes to the national standards, and to a contract for the alternatives analysis. The selected contractor, ManTech Advanced Systems International, presented an initial draft of the alternatives analysis at a meeting of the FEC Advisory Panel in April 1998. The panel, composed of twenty State and local election officials from around the country, used the opportunity to review and comment on the initial draft. After this meeting, the contractor proceeded to prepare the final report to the Commission.