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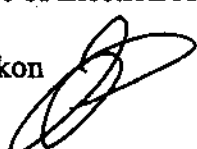
AGENDA ITEM

For Meeting of: 12-05-02

November 26, 2002

To: The Commission

From: Penelope Bonsall ^{PB}
Director, Office of Election Administration

Through: James A. Pehrkon
Staff Director 

Re: Approval of the Implementation Plan for the Voting System Standards

Please find attached the Implementation Plan for the Voting System Standards. This document serves to provide guidance and structure to the transition between the 1990 Standards and the 2002 Standards, approved by the Commission on April 30, 2002. The Office of Election Administration developed this document with the assistance of vendors, state and local officials, testing authorities, and members of the election administration community. It represents a consensus as to the best way to proceed with the implementation, and will serve as a useful guide to a wide range of groups who use the Standards, either to develop, test, or purchase voting systems.

The Office of Election Administration recognizes that the Help American Vote Act will fundamentally alter the long-term implementation of the Standards. For example, under the Election Reform Act, the National Institute for Standards and Technology will serve to evaluate the technical expertise of the ITAs, who will then be certified by the new commission. Although the changes will affect some aspects of the Implementation Plan, it is unclear when and how these changes will take effect. The effect and scope under the new legislations of the Standards, and its companion programs, will require deliberations by those parties who are participating in the new election administration framework. In the meantime, this office believes it is important to produce this document, which reflects the completion of the FEC's project to revise the 2002 Standards, and can serve as a necessary policy directive until such time as the new federal law is implemented.

Recommendation: Adopt the attached Implementation Plan for the Voting System Standards.

**A Plan for Implementing the
2002 Voting System Standards**

Federal Election Commission
November 2002

A Plan for Implementing the 2002 Voting System Standards

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A Plan for Implementing The 2002 Voting System Standards

1. Introduction

The Federal Election Commission ("FEC") and its Office of Election Administration ("OEA") serve as the primary federal agency charged with providing assistance in the administration of elections by State and local governments. In order to aid election officials with the acquisition of reliable voting equipment, the FEC promulgated the 1990 Voting System Standards ("VSS" or "the Standards") to ensure that machines used for voting meet certain baseline criteria for accuracy, reliability, and durability.

The VSS, which States adopt on a voluntary basis, provides performance standards used by vendors to design systems. The Standards also include test criteria that measure voting systems against the performance standards. Since 1994, Independent Test Authorities ("ITAs") approved by the National Association of State Election Directors ("NASED") have been evaluating voting systems for compliance with the VSS. The goal of reliable computer voting systems has been embraced by State and local officials, who have promulgated additional standards and test requirements to ensure voting systems sold within their jurisdictions are able to accurately and reliably meet the individual needs of their unique populations. The FEC recognizes that the Help Americans Vote Act of 2002 will fundamentally alter the long-term application of the Standards, including testing. Under the Act, for example, the National Institute for Standards and Technology, not NASED, will evaluate the technical expertise of the ITAs, who will then be certified by the new Election Administration Commission. Until the National Institute for Standards and Technology begins these evaluations, however, ITAs may be designated either by NASED for approval nationwide, or, if otherwise permitted under state law, by a State's highest election official for use in that State, without regard to whether the State adopts the Standards by statute, regulation or administrative fiat.

Voting systems, and the technologies that they are able to utilize, have expanded rapidly since the VSS and its implementing programs were instituted. Through the testing process, the FEC has been able to pinpoint both general and specific areas upon which standards needed to be developed or altered to reflect the contemporary needs of the election community and the general public. To reflect these needs, the FEC, with the significant input and assistance of a wide cross-section of interested parties across the country, has adopted revised Standards. The two-volume revised Standards were approved by the FEC on April 30, 2002.

Because the VSS uniquely provides extensive assurances of the accuracy, reliability, and durability of voting systems, the FEC strongly recommends that all States adopt these revised

Standards for voting systems used within their jurisdictions and participate fully in NASED's ITA program.

This Implementation Plan provides information and advisory guidance to assist States, voting system vendors, and local jurisdictions in the transition to the 2002 standards. The plan addresses the roles of the primary participants, the implementation of the 2002 standards in national testing, recommendations to States implementing the 2002 standards, and the approach that the FEC anticipates using for future revisions to the Standards.

2. Roles of the Participants

The primary participants in the implementation of the national voluntary voting system standards are the:

- ♦ Federal Election Commission;
- ♦ National Association of State Election Directors;
- ♦ Independent Test Authorities;
- ♦ Vendors;
- ♦ States; and
- ♦ Local jurisdictions.

2.1. Federal Election Commission

The FEC oversees the development and maintenance of the VSS. In doing so, the FEC coordinates with the NASED Voting Systems Board and solicits input from a wide range of technical experts, users, vendors, interest groups, and interested persons. The Office of Election Administration also provides information and assistance to State and local governments in implementing and using the VSS, and compiles and makes available data regarding the adoption of the Standards.

2.2. National Association of State Election Directors

NASED certifies independent testing laboratories that use the national standards to evaluate voting systems though, despite any language in Standard 1.6.1, independent testing laboratories may also be designated by the highest election official in a State for use in that State, if otherwise permitted under state law. When a voting system completes the testing process, the ITA provides NASED with information regarding the system's compliance with the standards and NASED issues a qualification number that identifies to States and procuring jurisdictions that the system has been qualified.

NASED has established a Voting Systems Board composed of State election directors and technical consultants. The board also has *ex-officio* representation from OEA, ITAs, and the Institute of Electrical and Electronics Engineers. The Executive Director of the Election

Center serves as Secretariat for the Board. NASED's Voting Systems Board meets regularly to discuss the national testing process and issues related to the implementation of the national standards in testing.

2.3. Independent Test Authorities

Independent Test Authorities conduct qualification tests on voting systems. An ITA works with a vendor to develop a test plan to ensure that a system adequately performs in a manner consistent with the VSS, and may require modifications to modules, documentation, or other parts of the system in order to address concerns regarding compliance. Additionally, ITAs review documentation provided by the vendor and conduct tests to ensure that the documentation accurately represents the voting system's design and capabilities. ITAs also conduct testing to subsequent vendor modifications to previously qualified systems. This process begins with the ITA analyzing a modified system to document the range of tests that will be required. The ITAs are responsible for following established procedures outlined by the VSS to ensure that the goal of reliable, accurate, and dependable system functions is met across a broad spectrum of voting systems.

2.4. Vendors

Vendors are responsible for designing voting systems that comply with the Standards. They are responsible for working with the ITAs to support a comprehensive evaluation of the system, including providing complete and accurate information regarding the design and function of any voting system submitted for national testing. Vendors also work with the ITAs to make changes to the voting system necessary to complete the testing process. It is important that vendors provide a purchasing jurisdiction the precise system that has been qualified, which includes installing the qualified configuration for that system. When a vendor modifies a system or its configuration, it is the vendor's responsibility to submit the modifications to the ITAs for evaluation.

2.5. States

Because the Standards process is by its nature voluntary, each State must determine whether to participate in the VSS program. When moving to adopt the VSS, every State is encouraged to use the Standards as a platform to evaluate its needs, and to determine whether to adopt the Standards in whole, in part, or with specific modifications that reflect the interest of the State's voting population. When a State determines that deviations from the Standards are appropriate, a state is encouraged to establish alternative or complementary standards against which a system may be formally evaluated. States also face many procedural and technical difficulties with implementing the Standards, including developing transition rules for older voting systems that are not qualified. States are encouraged to establish robust policies through appropriate statutory or regulatory routes to ensure that voting systems used during elections continue to provide reliable and accurate results for the electorate.

The FEC recognizes that there is wide variation amongst states as to the legal and fiscal responsibility for the acquisition of voting equipment. However, States, to the extent permissible under state law, are encouraged to provide assistance to purchasing jurisdictions in the acquisition, use, and maintenance of equipment.

2.6. Local Jurisdictions

Local jurisdictions are most often responsible for the acquisition of voting systems. They may be required to choose from among a list of voting systems certified by the State to meet national standards and State requirements. If not, they may choose to acquire systems that have been confirmed to meet national standards. Local jurisdictions are encouraged to make decisions regarding the purchase of voting systems that take into account which system best conforms to the unique needs of the voting population of the jurisdiction. They are encouraged to avail themselves of assistance available from the FEC, and their State governments in acquiring and installing voting equipment. They are strongly encouraged to verify that a system and its configuration match those that were certified by the ITA.

3. Implementing the 2002 Standards in National Testing

The transition from the 1990 to the 2002 standards must be done in a reasonable and sequential order. Commission approval of the updated standards in April of 2002 initiated this transition phase by introducing the new document to the ITAs, to the vendor community, to election officials and to the general public. This section builds on this first transition phase by recommending a timetable for implementation of the 2002 standards, by setting a deadline to suspend testing to the 1990 standards, and by recommending a procedure for the testing of previously qualified voting systems.

3.1. Timetable for Implementing 2002 Standards

ITAs shall begin testing against the 2002 Voting System Standards no later than 30 days after Commission approval of this Implementation Plan. However, ITAs are encouraged to begin to do so at an earlier time if they are prepared to do so, particularly if a vendor requests that its voting system or modification be evaluated under the 2002 Standards.

ITAs will complete the testing of voting systems in the process of being tested using the 1990 standards at the time that this deadline takes effect, if such systems have by this deadline submitted a completed technical data package to the ITA. Failure to respond after 60 days to any anomaly that has halted testing by the ITA will forfeit this exception and require the vendor to resubmit its system for testing under the 2002 Standards. Regardless, the FEC recommends that vendors who have voting systems actively undergoing testing under the 1990 standards at the time of this deadline become certified under the 2002 standards. The FEC will continue to examine whether it is appropriate to recognize certification under the 1990 Standards.

3.2. Subsequent Testing of Voting Systems Previously Qualified

If a modification to a system that qualified under the 1990 standards is submitted for review after the deadline for ITAs to begin testing against the 2002 standards, the modified component will be evaluated using the 2002 standards. If a software component that qualified under the 1990 standards is revised, only the portion of the software that is revised should be evaluated using the 2002 standards.

Exceptions to this policy may be made on a case-by-case basis by the NASED Technical Subcommittee where emergency modifications are needed to a 1990 qualified system currently in use where there is not sufficient time to make changes to comply with the 2002 standards and the failure to make the emergency modification may have a negative effect on the system's accuracy, integrity, or reliability of an upcoming election.

Vendors may decide to submit the full voting system that was previously qualified under the 1990 standards to national testing against the 2002 standards. When a previously qualified voting system is submitted for qualification under the revised standards, earlier tests performed by the ITAs that already demonstrate that the system meets or exceeds the 2002 standards need not be repeated. Prior to such testing, the ITAs will analyze the tests previously performed on the system or components and provide a written report to the NASED Voting Systems Board detailing the tests needed and the tests that need not be repeated to determine compliance with the 2002 standards. These reports will be made available to the public, except to the extent that such reports should be redacted to protect a vendor's proprietary interests.

3.3. Impact on NASED Qualification Numbers Previously Assigned

The NASED Voting Systems Board will add the number "90" to the end of the NASED number assigned to voting systems or components qualified under the 1990 Voting System Standards. This revised number will be displayed on the list of qualified voting systems published on the NASED and Election Center web sites until the entire voting system qualifies under the 2002 or later version of the Standards.

When some components of a voting system have qualified under the earlier standards and some have qualified under the current standards, the qualification number shall retain the last two digits of the year of the earlier standards. Once an entire voting system qualified under previous standards has fully qualified under a later version of the standards, the NASED qualification number will be upgraded by changing the last two digits of the number to the last two digits of the later year of the standards version under which the system qualified.

In addition, software versions that respond to the needs of a specific State shall be listed separately with the two letter postal code for the appropriate State. NASED will also remove

from the list of qualified systems any previously qualified software versions that have been replaced by a newer qualified version.

3.4. Resolution of Testing Issues Under 2002 Standards

The FEC anticipates that, as with the 1990 standards, questions may arise regarding interpretation of the 2002 standards and related test requirements. As in the past, the NASED Voting Systems Board will deal with these questions on a case-by-case basis. From this point forward, the Voting Systems Board will submit to the FEC a Technical Bulletin describing each such issue and any decisions made by the Board. The FEC will make these documents available to the public and will use them in developing future revisions of the standards.

4. Recommendations to States Implementing the Standards

States that adopted the 1990 Standards will need to ascertain whether current law or regulation is sufficient to incorporate the 2002 document. The FEC recommends that States review adoption procedures and, should state adoption procedures require amendment to code or regulation, make necessary revisions no later than 30 days following adoption of this document by the FEC, or as soon as legally possible thereafter.

4.1. Enabling Vehicle for State Implementation

The Implementation Plan that accompanied the FEC's 1990 Voting System Standards discussed the advantages and disadvantages of three possible methods of adopting the national standards: the written administrative fiat, State regulation, or State statute. States that have adopted the Standards should take the opportunity to not only ensure that state policies are sufficient for adoption of the 2002 Standards, but are conducive to seamless enactment of future revisions to the Standards.

For those States that have not yet adopted the standards, but are interested in doing so, the FEC encourages them to carefully evaluate methods for adoption and choose a method that best suits a State's election needs and is acceptable under State law and practice:

- ♦ The **statutory process** may be necessary, depending on the current structure of state election law and the extent to which voting system purchases are already governed by state law. When statutory adoption is necessary, policymakers should note that a deliberative legislative process inhibits the swift enactment of the Standards. This could, in turn, have a significant detrimental effect on the administration of elections. It is recommended that any legislation adopted focus particular attention on the changing state of voting systems and the need for election officials to have flexibility to manage the State's elections and meet changing needs and unexpected demands.

- ♦ The **regulatory route**, most often used as a complement to statutory adoption, has the advantage of clearly codified procedures and policies that provide all parties with clear notice of the State's position with respect to the VSS and its the State's own regulations. Additionally, regulatory processes, unlike statutory processes typically provide for more details in implementation and more significant public input in the process. Furthermore, this method may provide state election officials with clearly delineated authority to manage and guide the State's use of the VSS.
- ♦ The **written administrative fiat** allows the chief election official of the State the greatest flexibility – making it possible to quickly implement and easily revise the standards without legislative intervention. Because a public notice or comment period is not normally required, the effective date is not delayed. The State Board of Certification in West Virginia followed this administrative procedure. However, the FEC recognizes that not all states allow state election offices the authority to act in this manner. Furthermore, a lack of formal adoption of the Standards could raise complicated questions regarding the long-term commitment the State has to the Standards process.

4.2. Approaches to Adoption

States that adopted the 1990 Standards by reference will need to determine if that reference included subsequent revisions. Those States that are interested in adopting the Standards in a manner that automatically encompasses subsequent revisions, without prior State review, might use the following reference adapted from the 1990 Implementation Plan:

No computerized voting system may be offered to the State for consideration unless an independent test authority recognized by the National Association of State Election Directors has confirmed that the system meets or exceeds the standards adopted by the Federal Election Commission, as they may be amended from time to time.

States that adopted the standards by reference, but did not provide for the automatic adoption of subsequent revisions, will need to take action to determine if it is necessary to alter code or regulation to transition to the 2002 Standards.

Any State that may have adopted the full text of the 1990 Standards will need to adopt the revised Standards in full text, and will need to do so each time the VSS is revised. States should consider, as a matter of legislative convenience, switching to an alternate approach for the adoption of the Standards and subsequent revisions, such as the adoption by reference discussed above.

States have the option to adopt only certain portions of the Standards, and some states have done so with the 1990 Standards. States that adopted the Standards selectively will need to determine whether the 2002 Standards should also be partially adopted. Should a State continue partial adoption, it will need to review the 2002 Standards and future revisions to

determine which portions to adopt. Alternatively, these States may find it preferable to adopt the revised Standards in whole.

4.3. Treatment of Systems not Qualified Under Revised Standards

Modifying existing systems or developing and qualifying new ones involves time and money. The FEC recognizes that State and local jurisdictions would suffer financial hardship if systems certified under only the 1990 had to be summarily replaced. More importantly, because the implementation of testing under the 2002 Standards is still in its infancy, time is needed to certify a healthy variety of systems under the 2002 Standards to meet the unique needs of varying locations.

However, safeguarding the integrity of elections, the foundation of democratic government, is an overwhelming concern. The Standards are the product of experience, and reflect real-world difficulties faced throughout the country. They carefully crafted to address concrete problems that have threatened elections processes in the past. Keeping this in mind, States will need to determine if and when to require the replacement or upgrade of voting systems in use when the system does not meet the Standards and their subsequent revisions.

4.4. Obtaining Expertise for State Testing and Procurement

The FEC recommends that States develop programs and procedures that utilize technical expertise to:

- Conduct State certification tests;
- Review Requests for Proposals for the acquisition of voting systems;
- Review contracts for acquisition of voting systems;
- Oversee acceptance tests of voting systems delivered; and
- Ensure proper configuration management.

The lack of technical expertise continues to threaten the integrity of the election process. Without technical experts performing State certification, there can be no assurance that voting systems certified are the same as those qualified to meet national standards, or that they necessarily meet all State requirements. Without technical expertise in the review of Requests for Proposals and contracts for acquisition of voting systems, there can be no assurance that voting systems sought and acquired meet national standards and State requirements. Without technical expertise in acceptance testing, there can be no assurance that the equipment delivered conforms with nationally qualified versions of the system or meets State and contract requirements and product specifications. Technical experts can also help the State ensure that subsequent system maintenance and enhancements are made with the State's full knowledge and that all modifications have been submitted for national qualification and State consideration. The FEC and OEA will assist States in developing a State certification program that best suits the state's needs.

4.5. State Involvement in Qualification Testing

The FEC also recommends that States become involved in the qualification testing process. As observers and contributors to the process, States can eliminate duplication of some specialized non-operating and environmental tests, contribute to streamlining the testing process, and reduce overall testing costs.

4.6. Reporting Problems

In order to promote the timely disclosure and correction of voting system anomalies for the benefit of the entire election community, the FEC recommends that States, purchasing jurisdictions, and other interested parties report to the Office of Election Administration at the Federal Election Commission (1-800-424-9530, ext 1095) any problems found in nationally qualified voting systems, as well as any attempts to market voting system configurations that have not been qualified.

The FEC cannot emphasize enough the need for vendors to accurately represent the certification of their voting systems, and that vendors take care to sell and install configuration and components that are not altered, however insignificantly, from the certified system. The FEC also finds imperative the need for vendors to provide service and support in accordance with State requirements and State or local contract provisions.

5. Human Factors Appendix

A new feature in the 2002 version of the Standards is an appendix that addresses human factors, or usability standards. Although this Appendix is offered for informational purposes only, experts across the country agree that system design and ease of use are intrinsically important to successful voting system use. Vendors are strongly encouraged to consult this appendix in the design of systems. Purchasing jurisdictions should discuss the concepts found in the Appendix with prospective vendors, and take serious consideration of these concepts when making purchasing decisions.

6. Future Revisions to the Standards

The FEC is currently developing testable usability standards and test criteria, which will be incorporated into the next version of VSS,. The FEC intends, at the appropriate time, to allow public comment on these projects in order ensure that a wide variety of interests are recognized during their development.

Additionally, the FEC will also consider incorporating clarifications identified by Technical Bulletins submitted by the NASED Voting Systems Board and revisions recommended by non-governmental organizations involved in developing standards. The

FEC anticipates releasing these updates to the VSS in the first part of 2004, along with a recommended timetable for the transition to these new standards.

The FEC is also in the beginning stages of developing management guidelines, which will provide guidance to election officials on the management of voting systems. Additionally, the FEC will continually assess the need for revisions to the Standards themselves, and will develop a recommended timetable as needs arise.