

VOTING TECHNOLOGY STANDARDS ACT OF 2001

OCTOBER 31, 2001.—Committed to the Committee of the Whole House on the State of the Union and ordered to be printed

Mr. BOEHLERT, from the Committee on Science,
submitted the following

R E P O R T

[To accompany H.R. 2275]

[Including cost estimate of the Congressional Budget Office]

The Committee on Science, to whom was referred the bill (H.R. 2275) to amend the National Institute of Standards and Technology Act to ensure the usability, accuracy, integrity, and security of United States voting products and systems through the development of voluntary consensus standards, the provision of technical assistance, and laboratory accreditation, and for other purposes, having considered the same, report favorably thereon with amendments and recommend that the bill as amended do pass.

CONTENTS

	Page
I. Amendment	2
II. Purpose of the Bill	4
III. Background and Need for the Legislation	4
IV. Summary of Hearings	6
V. Committee Actions	8
VI. Summary of Major Provisions of the Bill	9
VII. Section-By-Section Analysis	9
VIII. Committee Views	10
IX. Cost Estimate	11
X. Congressional Budget Office Cost Estimate	12
XI. Compliance with Public Law 104-4 (Unfunded Mandates)	13
XII. Committee Oversight Findings and Recommendations	13
XIII. Statement on General Performance Goals and Objectives	13
XIV. Constitutional Authority Statement	14
XV. Federal Advisory Committee Statement	14
XVI. Congressional Accountability Act	14
XVII. Statement on Preemption of State, Local, or Tribal Law	14
XVIII. Changes in Existing Law Made by the Bill, As Reported	14
XIX. Committee Recommendations	14
XX. Proceedings of Subcommittee Markup	14
XXI. Proceedings of Full Committee Markup	22

I. AMENDMENT

The amendments are as follows:

Strike all after the enacting clause and insert the following:

SECTION 1. SHORT TITLE.

This Act may be cited as the “Voting Technology Standards Act of 2001”.

SEC. 2. DEFINITIONS.

For purposes of this Act—

- (1) the term “technical standards” means performance-based standards and conformance specifications; and
- (2) the term “voting products and systems” includes products and systems relating to every stage of the voting process, from voter registration through recounts and archiving.

SEC. 3. VOTING TECHNOLOGY STANDARDS.

(a) COMMISSION.—

(1) ESTABLISHMENT.—There is established a commission to develop voluntary technical standards to ensure the usability, accuracy, security, and integrity of United States voting products and systems.

(2) MEMBERSHIP.—The Commission shall consist of—

(A) the Director of the National Institute of Standards and Technology, who shall serve as the chair of the Commission;

(B) two representatives of the National Association of State Election Directors, selected by that association, one Republican and one Democrat;

(C) one representative of the American National Standards Institute, selected by that institute; and

(D) nine additional members selected by the members described in subparagraphs (A) through (C) by unanimous vote, of which at least two shall be local election officials;

(3) TERMS.—(A) Except as provided in subparagraph (B), (C), or (D) of this paragraph, each member selected under paragraph (2)(B), (C), or (D) shall serve a term of 6 years.

(B) Four of the members initially appointed under paragraph (2)(D) shall be appointed for an initial term of 3 years.

(C) The members initially appointed under paragraph (2)(B) shall be appointed for an initial term of 4 years.

(D) The member initially appointed under paragraph (2)(C) shall be appointed for an initial term of 5 years.

(E) Members may serve for more than 1 term, but not more than 3 terms.

(F) Any member appointed under paragraph (2)(D) to fill a vacancy occurring before the expiration of the term for which the member’s predecessor was appointed shall be appointed only for the remainder of that term. A member may serve after the expiration of that member’s term until a successor has taken office, but not more than 1 year. A vacancy in the Commission shall be filled in the manner in which the original appointment was made.

(4) TRAVEL EXPENSES.—Each member shall receive travel expenses, including per diem in lieu of subsistence, in accordance with applicable provisions under subchapter I of chapter 57 of title 5, United States Code.

(5) QUORUM.—The Commission shall conduct no business, other than appointing members under paragraph (2)(D), before all members of the Commission have been appointed. Nine members of the Commission shall constitute a quorum.

(6) ADMINISTRATIVE AND TECHNICAL SUPPORT.—Upon the request of the Commission, the Director of the National Institute of Standards and Technology shall provide to the Commission the administrative and technical support necessary for the Commission to carry out its responsibilities under this Act.

(b) DEVELOPMENT OF VOLUNTARY TECHNICAL STANDARDS.—

(1) PROCEDURES.—Not later than 90 days after the date of the enactment of this Act, the Commission shall publish in the Federal Register a description of the procedures it will use to establish voluntary technical standards under this subsection, along with a list of the members of the Commission.

(2) ESTABLISHMENT OF VOLUNTARY TECHNICAL STANDARDS.—Not later than 9 months after the date of the enactment of this Act, the Commission shall establish, and publish in the Federal Register, such voluntary technical standards as are necessary to ensure the usability, accuracy, security, and integrity of United States voting products and systems.

(3) REVIEW AND UPDATE.—The Commission shall review the voluntary technical standards established under this subsection at the conclusion of every

even-numbered year, and shall determine whether new or updated voluntary technical standards are necessary to ensure the usability, accuracy, security, and integrity of United States voting products and systems. If the Commission determines that such new or updated voluntary technical standards are necessary, the Commission shall publish in the Federal Register the findings of its review, an explanation for its decision, and the new or updated voluntary technical standards.

SEC. 4. LABORATORY ACCREDITATION.

Not later than 6 months after the initial publication of voluntary technical standards established under section 3(b)(2), the National Institute of Standards and Technology shall accredit independent, non-Federal laboratories to test and certify that voting products and systems conform with the voluntary technical standards established by the Commission. The National Institute of Standards and Technology shall make an effort to accredit at least one minority-owned laboratory.

SEC. 5. INFORMATION DISSEMINATION.

The National Institute of Standards and Technology, after consultation with the Commission, shall—

- (1) disseminate voluntary technical standards established under section 3(b), other relevant technical information, guidelines for usage of the voluntary technical standards, and any other information appropriate to assist in the implementation of the voluntary technical standards;
- (2) maintain and make available a list of laboratories accredited under section 4; and
- (3) maintain and make available, including through the Internet, a list of United States voting products and systems that have been certified by a laboratory accredited under section 4 to conform with the voluntary technical standards established by the Commission.

SEC. 6. RESEARCH AND DEVELOPMENT PROGRAM.

The Director of the National Institute of Standards and Technology shall establish a program for research and development in areas to support the development of voluntary technical standards established under section 3(b) for voting products and systems, including research and development on—

- (1) the security of computers, computer networks, and computer data storage used in voting products and systems, including methods to detect and prevent fraud;
- (2) protection of voter privacy;
- (3) human factors in the design and application of voting products and systems, including assistive technologies for persons with disabilities and varying levels of literacy; and
- (4) remote access voting, including Internet voting.

SEC. 7. REPORTS TO CONGRESS.

(a) **ONE-YEAR REPORT.**—Not later than 1 year after the date of the enactment of this Act, the Commission shall transmit to the Congress a report that—

- (1) assesses the areas of human factors research, including usability engineering and human-computer and human-machine interaction, that feasibly could be applied to voting products and systems design to ensure the usability and accuracy of United States voting products and systems, including to improve access by the disabled and to reduce voter error and the number of spoiled ballots in elections;
- (2) assesses the potential demand by State and local governments for technical assistance in implementing voluntary technical standards established under section 3(b), and makes recommendations on how best to address that demand;
- (3) makes recommendations for methods of promoting the implementation of voluntary technical standards established under section 3(b); and
- (4) assesses the need for a grant program or other mechanism to ensure the accreditation and operation of a sufficient number of laboratories to test and certify voting products and systems.

(b) **TEN-YEAR REPORT.**—Not later than 10 years after the date of the enactment of this Act, the Commission shall transmit to the Congress a report that—

- (1) identifies the States that have voluntarily complied with standards established pursuant to this Act; and
- (2) assesses the impact of this Act on the accuracy of vote tabulation.

Amend the title so as to read:

A bill to ensure the usability, accuracy, integrity, and security of United States voting products and systems through the development of voluntary consensus standards, the provision of technical assistance, and laboratory accreditation, and for other purposes.

II. PURPOSE OF THE BILL

The purpose of H.R. 2275 is to ensure the usability, accuracy, integrity, and security of United States voting products and systems through the development of voluntary consensus standards, the provisions of technical assistance, the accreditation of laboratories, and for other purposes.

III. BACKGROUND AND NEED FOR THE LEGISLATION

Reports of problems in Florida and elsewhere in the nation during the 2000 election brought to the public's attention many weaknesses in the ways elections are administered and the specific failures of voting technologies, especially punch card voting machines.

While the problems with various voting technologies caught most Americans by surprise, experts in voting technology and the computer sciences have warned of potential trouble for decades. In 1975, the General Accounting Office (GAO) in conjunction with the National Institute of Standards and Technology (NIST) issued a report entitled *Effective Use of Computing Technology in Vote Tallying*. The report recommended more extensive use of audit trails and other internal control techniques, improvements in computer program design, and additional documentation to verify the results of elections. In addition, the report concluded that research was needed to improve voting equipment and suggested such high priority areas for research as the engineering of voting equipment to improve human usability and methods to improve convenience while preserving voter privacy.

In 1988, NIST issued a second report entitled *Accuracy, Integrity, and Security in Computerized Vote-Tallying*, which made a number of recommendations to improve computer-based voting systems, including recommending that the use of pre-scored punch card voting systems be eliminated.

Despite these reports, no Federal agency has ever been assigned explicit responsibility by legislation or executive order to develop and maintain standards for voting equipment. However, the Federal Elections Commission (FEC) acted on its own, developing and issuing standards in 1990 for voting equipment. The standards apply to the three kinds of voting technologies in use in the United States that employ computers to register, record or tally votes: Votomatic- and Datavote-type punchcards, marksense (also known as optical scan), and direct recording electronic (DRE) systems. The standards do not apply to hand-counted paper ballots or mechanical lever machines.

The FEC standards are voluntary, in recognition of the tradition that States take responsibility for administering elections. As of April of this year, 37 states had adopted the standards in whole or part, according to the FEC. Still, those standards proved insufficient for such states as Florida to avoid problems with voting equipment during the last election. In addition, many states exempted equipment already in use before 1990 from meeting the standards.

The current standards regime is implemented by a system of laboratories that test voting equipment against the FEC standards. Overseeing this critical function has not been assigned to any Federal agency either by legislation or executive order, nor has any Federal agency assumed responsibility. Instead, the National Association of State Elections Directors (NASED) has assumed responsibility by accrediting independent laboratories to test and certify voting equipment. In addition, while some states require that voting technologies meet specifications beyond those required by the FEC, few states have independent testing laboratories to certify that voting equipment meets those more stringent standards.

In the aftermath of the 2000 elections, a number of expert panels and commissions issued reports making recommendations for improving elections in the United States. Those recommendations included strengthening standards and testing for voting equipment. In July, a team of experts at the California Institute of Technology and the Massachusetts Institute of Technology reported that up to 1.5 million votes were lost in the 2000 election due to “faulty and outdated voting technology.” The report recommended that a federal agency “independent” of the FEC set standards for voting equipment and that voting equipment be tested in conditions that resembled those of real elections to ensure that designs would prevent common voter errors.

Also in July, the National Commission on Elections Reform co-chaired by former Presidents Jimmy Carter and Gerald Ford issued a report recommending that Congress explicitly grant statutory authority to a federal agency to develop voluntary standards in consultation with and for the benefit of State and local election officials. Standards, the report said, should cover security, human usability, and maintenance. The report praised NIST as being “highly regarded and relatively independent” and recommended that NIST select and supervise independent testing authorities that would evaluate voting equipment against the new standards.

Despite the previous research NIST has conducted on voting equipment, the agency’s technical expertise in technical standards, computer security, and laboratory accreditation, and its reputation for professionalism, NIST has no ongoing or formal relationship with the FEC to assist in the development of technical standards and testing specifications. In addition, no current research effort supports the development of standards for the usability, accuracy, integrity, and security of voting systems.

In October, the General Accounting Office (GAO) issued several reports on the problems that occurred in the 2000 elections, including a report on the status and use of Federal voting equipment standards. Noting that performance standards should be established for a well recognized set of specific performance benchmarks, GAO reported that FEC’s standards failed to set standards in such essential areas as security certification, human usability, and quality assurance.

GAO further criticized the FEC for failing to maintain the standards, allowing them to become outdated. Only in 1999 did the FEC begin to update the 1990 standards. According to GAO, given the advances in the voting equipment field, standards revisions must be made much more frequently. Even now the updated standards

exist only in draft form and are not expected to become final until next year, twelve years after the original standards were published.

Futhermore, GAO found the new draft standards continued to fail to address requirements for security, quality assurance, and human usability. Only after GAO provided its report in draft form to the FEC did the agency issue additional draft standards for security certification. GAO did not comment on the quality of those standards. Although the FEC's responsiveness to the GAO should be commended, the agency's last minute submission of security certification standards raises serious concerns regarding the adequacy of the standards and the process by which they were developed.

Security certification standards are perhaps more important than ever. While few if any of the problems uncovered during the 2000 election stemmed from the lack of adequate security features of voting equipment, experts in the field of computer science warn that the move in many States to purchase new computer-based voting equipment could put our elections at even greater risk of fraud. Computer-based voting programs operating on common platforms (for example, Microsoft Windows) may be vulnerable to computer viruses that can disrupt those platforms. Data transmissions may be vulnerable to interception or fraudulent modification by computer hackers. In cases where elections data are transmitted by the Internet, law enforcement could be made more difficult if computer hackers were to launch their attack from another country.

In addition, those who write computer programs for voting equipment could have unchecked power over elections. Unscrupulous programmers may, for example, purposefully create "trap doors" or other vulnerabilities in voting system programs to allow later access by the programmer or others for fraudulent purposes. Finally, computerization could increase the vulnerability of the vote count of entire districts. If a district were to adopt an insecure system, the vote of the whole district could be put in jeopardy as the result of a single break-in. Security standards must be robust enough to avoid the potential break-ins or breakdowns of our voting systems that could make future mishaps even more disruptive than those of the 2000 elections.

In addition to the flaws in the standards, GAO uncovered serious deficiencies in the process for accrediting laboratories to test voting equipment, despite the importance of testing in assuring that voting products meet the standards. GAO noted that while NASED has developed requirements to periodically reaccredit the laboratories that test voting equipment and to conduct on-site inspection visits, NASED has not reaccredited a single testing lab nor conducted any inspections.

GAO concluded that voting standards must be current, complete, and relevant if they are to be useful to State and local election officials in assuring the public that their voting equipment is reliable. GAO said the development, maintenance, and implementation of voting equipment standards are such important responsibilities that Congress should consider legislation explicitly assigning responsibility for these functions. H.R. 2275 does just that.

IV. SUMMARY OF HEARINGS

On May 22, 2001, the Science Committee held a hearing to examine the role of standards in voting technology. The Committee

heard from: (1) Dr. Stephen Ansolabehere, Professor of Political Science at the Massachusetts Institute of Technology and the Project Manager of the Caltech-MIT Voting Project; (2) Dr. Rebecca Mercuri, Assistant Professor of Computer Sciences at Bryn Mawr College; (3) Dr. Doug Jones, Associate Professor of Computer Sciences at the University of Iowa and Chairman of the Iowa Board of Examiners for Voting Machines and Electronic Voting Systems; and (4) Mr. Roy Saltman, consultant and retired employee of the National Institute of Standards and Technology.

Dr. Ansolabehere testified that there are several fundamental problems with the various voting technologies currently available. Referring to studies his team of MIT and Caltech specialists undertook in the months following the 2000 Presidential election, Dr. Ansolabehere noted:

- Punch cards and electronic equipment have higher rates of uncounted, unmarked, and spoiled ballots than do hand-counted, lever machined, or optically scanned ballots.
- The sheer size of voter registration databases presents technical and management problems, which make it difficult to get accurate voter registration to the polls where it is needed. According to the 2000 census, 7 percent of voters who did not vote reported registration problems as the reason.
- For the disabled, inaccessibility to voting equipment remains a problem.
- Electronic equipment poses new problems for ensuring the security and integrity of the vote count.

In terms of standards, Dr. Ansolabehere suggested that:

- The minimum criteria standards implemented by the National Association of State Elections Directors covering equipment durability and accuracy should be extended to the areas of usability, accessibility, and auditability.
- Federal agencies should compile and distribute information about equipment performance, cost, and administration so that States can better learn from each other's experience.
- Although standards that require uniformity among voting technologies should be avoided, in some cases, such as electronic security, such standards may be necessary.

Dr. Mercuri identified a number of inherent flaws in the application of computer technology to the voting process:

- Currently available electronic voting systems do not allow the voter to independently verify that the ballot they filled out was actually recorded, transmitted, and tabulated. Furthermore, many electronic voting systems lack an independent audit trail, making manual hand-recounts of ballots impossible.
- Electronic voting machines limit the role of elections officials and increase reliance on unregulated computer programmers and manufacturers.
- Many electronic systems on the market are so poorly designed that they actually make the voting process more lengthy, tedious, and confusing, especially for the elderly or those unfamiliar with the operation of computers.
- Encryption programs alone cannot be relied upon to provide complete privacy assurance. Many other technical requirements must be met to ensure the integrity of the entire system.

- Internet voting raises new concerns about ballot authentication and vote selling.
- In the case of an election challenge, electronic balloting and tabulation does not allow poll workers or election officials to perform bipartisan checks, since no clear audit trail exists.
- Technology does not, at present, provide a comprehensive solution to the problems of ballot tabulation.

Mr. Saltman, the author of two NIST reports in 1975 and 1988 on the problems caused by various voting technologies, testified that the Federal government should play a leading role in voting reform, although without federalizing elections. He urged the Federal government to:

- Undertake data collection, data analysis and reporting.
- Accredite independent laboratories to test voting equipment and document voting equipment performance.
- Support statewide voter registration programs and encourage grant programs for states and local governments.
- Undertake research into voting technology, especially in the areas relating to voter usability of different vote-casting methods, new types of voting systems, techniques to help the sight-impaired and new methods of voter identification.

Dr. Jones testified that the setting of stronger standards for voting technology is essential and that the FEC's Voluntary Certification Process standards are not stringent enough. In his testimony, he said:

- The State of Iowa has rejected a large number of voting systems that have been tested and found to meet the FEC's voluntary standards.
- Electronic voting lacks an independent, verifiable record of the voter's actions.
- States should not rush to embrace computerized voting systems until their fundamental problems are resolved.
- Internet voting should be prohibited until effective standards are in place and audit requirements are met.
- The country should slowly phase out poor performing voting systems, such as punch cards, and move cautiously toward adopting newer voting technologies.
- There is no perfect voting technology, and that the nation must not yet abandon "old tech" voting systems.

V. COMMITTEE ACTIONS

On May 22, 2001, the Science Committee held a hearing to examine the role of standards in voting technology.

Representative Vernon J. Ehlers introduced H.R. 2275, for himself and Representative James A. Barcia, on June 21, 2001.

The Subcommittee on Environment, Technology, and Standards met on June 27, 2001, to consider the bill. Subcommittee Chairman Vernon Ehlers and Ranking Member James Barcia offered a manager's amendment, which was adopted by voice vote. The Subcommittee favorably reported the bill, H.R. 2275, by voice vote, as amended.

On July 18, 2001, the Committee on Science met to consider H.R. 2275. Representative Sheila Jackson-Lee offered an en bloc amendment to restrict Voting Standards Commissioners to serving no more than three terms, ensure the accreditation of at least one mi-

nority-owned testing laboratory, and require a report to Congress. The amendment was adopted by voice vote.

The Committee on Science favorably reported the bill, H.R. 2275, as amended, by voice vote.

VI. SUMMARY OF MAJOR PROVISIONS OF THE BILL

H.R. 2275, the Voting Technology Standards Act of 2001, ensures the development of robust technical standards for the accuracy, integrity, security, and usability of voting products and systems used in the United States. Specifically, the bill:

- Establishes a 13-member commission to develop voluntary technical standards for voting products and systems. The Commission consists of the Director of the NIST, who will serve as its chair, a member of the American National Standards Institute, and representatives from state and local governments. NIST provides technical and administrative support for the Commission. Among the Commission's duties is to review the adequacy of voting standards after every federal general election and ensure their timely revision.
- Directs NIST to accredit laboratories around the country to test voting equipment. NIST is to publish information regarding which products and systems have been certified by accredited labs as meeting the standards and make this information available to State election officials.
- Establishes a research program at NIST to help improve voting system technology. NIST is to conduct research on methods to improve computer security, detect and prevent fraud, protect voter privacy, ensure the security and integrity of Internet voting, and improve usability.

VII. SECTION-BY-SECTION ANALYSIS COMMITTEE VIEWS

Section 1. Short Title: The Voting Technology Standards Act of 2001.

Section 2. Defines technical standards to mean performance-based standards and the specifications necessary to ensure that voting products and systems conform to those standards. Defines voting products and systems to include products and systems used in every stage of the voting process, from voter registration through recounts and archiving.

Section 3. Establishes a Commission to develop voluntary technical standards to ensure the usability, accuracy, integrity, and security of voting products and systems operated in the United States. Requires standards to be published within nine months of the date of enactment. Requires after every Federal general election that the Commission review technical standards, and update them as necessary.

Requires the Commission to include at least two representatives from the National Association of State Elections Directors (NASED), a member of the American National Standards Institute, and local election officials. Establishes the Director of the NIST as the Chair of the Commission and requires administrative and technical support for the Commission to be provided by NIST, upon request of the Commission. Establishes the term of each Commissioner to be six years.

Section 4. Directs NIST to accredit non-Federal laboratories to test and certify that voting products and systems conform to the Commission's standards.

Section 5. Directs NIST to disseminate the voluntary technical standards; maintain and make available the list of accredited laboratories; and maintain and make available a list of certified U.S. voting products and systems.

Section 6. Establishes a program for research and development to support the development of voluntary technical standards in areas including computer and data storage security, voter privacy protection, Internet voting, and human factors, including assistive technologies for persons with disabilities.

Section 7. Requires the Commission to issue a report to Congress within one year of the enactment of the Act.

VIII. COMMITTEE VIEWS

The Committee believes that robust technical standards are necessary to improve the usability and accuracy of voting equipment and ensure the integrity and security of voting systems. Of all types of standards necessary for the proper operation of federal elections, those that are technical in nature are most in need of being updated and strengthened. The Committee intends the term technical standards to be construed narrowly to pertain only to voting equipment and technologies for voting systems and not to include the rights of voters or policies regarding the administration or management of elections.

The Committee believes that technical expertise is an essential complement to election administration expertise in developing technical standards for voting systems. The Committee has balanced the areas of expertise of the four core members of the Commission the legislation establishes to develop voluntary standards. As the Commission selects additional members to fill its remaining seats, it should consult widely with interested parties including the National Association of Secretaries of State; the National Association of Towns and Townships; the National Association of County Recorders, Election Officials and Clerks; manufacturers of voting equipment; advocates for the disabled; and top experts in the fields of computer security and human use engineering.

The Commission should operate in an open and nonpartisan manner to develop voluntary standards on the technical aspects of voting, developing its own rules to conduct business, develop and approve voluntary technical standards, and receive testimony from outside experts. The Committee expects the Commission to publish any modifications it may make to its operating rules in the Federal Register.

The Commission should be sure to develop standards that encourage competition among voting technologies and manufacturers. The Committee believes that a single type of voting system is unlikely to be appropriate for every voting district in the country and that a monopoly market is likely to be detrimental to the goal of improving voting technology.

The Committee notes that critics have faulted the FEC's voluntary standards for being out-of-date for too long. The Commission should update technical voting standards to keep up with evolving technology.

NIST should accredit non-Federal laboratories to test voting equipment, according to testing procedures and conformance specifications established by the Commission to determine compliance with the standards. The Committee also believes that voter mistakes due to faulty design can best be discovered in tests under conditions that replicate those of an actual election and expects that voting systems tested for conformance with performance-based standards will be tested under such conditions. NIST should accredit a number of labs sufficient to serve the needs of the voting equipment manufacturing industry and State and local elections officials in each region of the country. The Committee is aware that a slow testing process discourages voting equipment manufacturers from updating their products to correct for design flaws.

The Committee believes that information relating to voting systems standards, testing specifications, and laboratories accredited to test voting equipment are important to the voting systems manufacturing industry and to State and local elections officials. NIST should make available to the public information regarding the performance of voting equipment, including which models are the best performers in each class of voting equipment.

The Committee believes that research is essential to maintaining high standards for voting technology. In particular, the Committee believes research is imperative to develop robust standards for computer security; fraud detection and deterrence; protection of voter privacy; the design and operation of voting systems to improve ease of use, including use by those with disabilities such as blindness; and, eventually, voting by Internet. NIST should consult widely with industry, academic laboratories, other Federal agencies, and other appropriate experts, on how best to conduct such a research program.

IX. COST ESTIMATE

Rule XIII, clause 3(d)(2) of the House of Representatives requires each committee report accompanying each bill or joint resolution of a public character to contain: (1) an estimate, made by such committee, of the costs which would be incurred in carrying out such bill or joint resolution in the fiscal year in which it is reported, and in each of the five fiscal years following such fiscal year (or for the authorized duration of any program authorized by such bill or joint resolution, if less than five years); (2) a comparison of the estimate of costs described in subparagraph (1) of this paragraph made by such committee with an estimate of such costs made by any Government agency and submitted to such committee; and (3) when practicable, a comparison of the total estimated funding level for the relevant program (or programs) with the appropriate levels under current law. However, House rule XIII, clause 3(d)(3)(B) provides that this requirement does not apply when a cost estimate and comparison prepared by the Director of the Congressional Budget Office under section 402 of the Congressional Budget Act of 1974 has been timely submitted prior to the filing of the report and included in the report pursuant to House rule XIII, clause 3(c)(3). A cost estimate and comparison prepared by the Director of the Congressional Budget Office under section 402 of the Congressional Budget Act of 1974 has been timely submitted to the Committee on Science prior to the filing of this report and is included

in Section X of this report pursuant to House rule XIII, clause 3(c)(3).

Rule XIII, clause 3(c)(2) of the House of Representatives requires each committee report that accompanies a measure providing new budget authority (other than continuing appropriations), new spending authority, or new credit authority, or changes in revenues or tax expenditures to contain a cost estimate, as required by section 308(a)(1) of the Congressional Budget Act of 1974 and, when practicable with respect to estimates of new budget authority, a comparison of the total estimated funding level for the relevant program (or programs) to the appropriate levels under current law. H.R. 2275 does not contain any new budget authority, credit authority, or changes in revenues or tax expenditures. Assuming that the sums authorized under the bill are appropriated, H.R. 2275 does authorize additional discretionary spending, as described in the Congressional Budget Office report on the bill, which is contained in Section X of this report.

X. CONGRESSIONAL BUDGET OFFICE COST ESTIMATE

U.S. CONGRESS,
CONGRESSIONAL BUDGET OFFICE,
Washington, DC, July 31, 2001.

Hon. SHERWOOD L. BOEHLERT,
*Chairman, Committee on Science,
House of Representatives, Washington, DC.*

DEAR MR. CHAIRMAN: The Congressional Budget Office has prepared the enclosed cost estimate for H.R. 2275, the Voting Technology Standards Act of 2001.

If you wish further details on this estimate, we will be pleased to provide them. The CBO staff contact is Ken Johnson.

Sincerely,

BARRY B. ANDERSON
(For Dan L. Crippen, Director).

Enclosure.

H.R. 2275—Voting Technology Standards Act of 2001

Summary: H.R. 2275 would establish a new commission to develop voluntary standards for voting equipment and other systems. The bill also would require the National Institute of Standards and Technology (NIST) to provide technical support to the commission, establish a new research and development program on voting systems, and accredit independent laboratories to certify that voting systems conform with the commission's voluntary standards.

CBO estimates that implementing H.R. 2275 would cost \$35 million over the 2002–2006 period, subject to the availability of appropriated funds. The bill would not affect direct spending of receipts; therefore, pay-as-you-go procedures would not apply.

H.R. 2275 contains no intergovernmental or private-sector mandates as defined in the Unfunded Mandates Reform Act (UMRA) and would impose no costs on state, local, or tribal governments.

Estimated cost to the Federal government: The estimated budgetary impact of H.R. 2275 is shown in the following table. The costs of this legislation fall within budget function 370 (commerce and housing credit).

	By fiscal year, in millions of dollars—				
	2002	2003	2004	2005	2006
CHANGES IN SPENDING SUBJECT TO APPROPRIATION					
Estimated authorization level	7	7	7	8	8
Estimated outlays	5	7	7	8	8

Basis of estimate: Based on information from NIST, CBO estimates that it would cost the commission and NIST about \$2 million a year to develop standards for the operation of voting equipment. These funds would be used to hire about 10 technicians and purchase necessary equipment. In addition, CBO estimates that NIST would incur annual costs of about \$5 million under the bill to pay for testing machines and the salaries and benefits for about 35 engineers, statisticians, and other staff needed to conduct the research and accreditation programs. Base on NIST's historical spending patterns and adjusting annually for inflation, CBO estimates that implementing H.R. 2275 would cost a total of about \$5 million in 2002 and about \$35 million over the 2002–2006 period, assuming appropriation of the necessary funds.

Pay-as-you-go considerations: None.

Intergovernmental and private-sector impact: H.R. 2275 contains no intergovernmental or private-sector mandates as defined in UMRA and would impose no costs on state, local, or tribal governments.

Estimate prepared by: Federal costs: Ken Johnson; impact on State, local, and tribal governments: Shelley Finlayson; impact on the private sector: Paige Piper/Bach.

Estimated approved by: Robert A. Sunshine, Assistant Director for Budget Analysis.

XI. COMPLIANCE WITH PUBLIC LAW 104–4

H.R. 2275 contains no unfunded mandates.

XII. COMMITTEE OVERSIGHT FINDINGS AND RECOMMENDATIONS

Rule XIII, clause 3(c)(1) of the House of Representatives requires each committee report to include oversight findings and recommendations required pursuant to clause 2(b)(1) of rule X. The Committee on Science's oversight findings and recommendations are reflected in the body of this report.

XIII. STATEMENT ON GENERAL PERFORMANCE GOALS AND OBJECTIVES

Pursuant to rule XIII, clause 3(c)(4) of the House of Representatives the general performance goals and objectives of H.R. 2275 are to develop voluntary technical standards for the proper operation of voting products and systems used in federal elections in the United States, and to establish a NIST a research program to support the development of the technical standards and to disseminate information relating to technical standards for voting standards to the public. H.R. 2275 also requires several reports to Congress relating to voting systems standards and the effect of the legislation on improving voting systems.

XIV. CONSTITUTIONAL AUTHORITY STATEMENT

Rule XIII, clause 3(d)(1) of the House of Representatives requires each report of a committee on a bill or joint resolution of a public character to include statement citing the specific powers granted to the Congress in the Constitution to enact the law proposed by the bill or joint resolution. Article I, section 8 of the Constitution of the United States grants Congress the authority to enact H.R. 2275.

XV. FEDERAL ADVISORY COMMITTEE STATEMENT

The functions of the Commission established by H.R. 2275 are not currently being nor could they be performed by one or more agencies or by enlarging the mandate of another existing advisory committee.

XVI. CONGRESSIONAL ACCOUNTABILITY ACT

The Committee finds that H.R. 2275 does not relate to the terms and conditions of employment or access to public services or accommodations within the meaning of section 102(b)(3) of the Congressional Accountability Act (Public Law 104–1).

XVII. STATEMENT ON PREEMPTION OF STATE, LOCAL, OR TRIBAL LAW

This bill is not intended to preempt any state, local, or tribal law.

XVIII. CHANGES IN EXISTING LAW MADE BY THE BILL, AS REPORTED

This legislation does not amend any existing Federal statute.

XIX. COMMITTEE RECOMMENDATIONS

On July 18, 2001, a quorum being present, the Committee on Science favorably reported the Voting Technology Standards of 2001 by a voice vote, and recommends its enactment.

XX. PROCEEDINGS OF THE SUBCOMMITTEE MARKUP

H.R. 2275, VOTING TECHNOLOGY STANDARDS ACT OF 2001

JUNE 27, 2001

COMMITTEE ON SCIENCE,
HOUSE OF REPRESENTATIVES,
Washington, DC.

The subcommittee met, pursuant to call, at 2:10 p.m., in Room 2318 of the Rayburn House Office Building, Hon. Vernon J. Ehlers (chairman of the subcommittee) presiding.

Chairman EHLERS. The subcommittee will be in order. Pursuant to notice, the Subcommittee on Environment, Technology, and Standards is meeting today to consider the following measure: H.R. 2275, Voting Technology Standards Act of 2001. I ask unanimous consent for the authority to recess the subcommittee at any time and without objection, it is so ordered.

I will proceed with my opening remarks and then we will hear from the Ranking Member. I introduced this legislation with Ranking Member Barcia in a bipartisan effort to ensure that voting

technologies are accurate, secure, reliable and easy to use. And every one of those is important.

[Statement of Chairman Vernon Ehlers follows:]

OPENING STATEMENT OF CHAIRMAN VERNON EHLERS

Good afternoon ladies and gentleman, I want to welcome you to the Subcommittee markup of H.R. 2275, the Voting Technology Standards Act of 2001. I introduced this legislation with Ranking Member Barcia in a bipartisan effort to ensure that voting technologies are accurate, secure, reliable and easy to use.

Last November, as the world placed Florida under a microscope to scrutinize its election, we saw just how vulnerable our nation's voting systems are to error. In the months since, we've discovered these problems are not limited to Florida. They are rampant among many other states, but went unnoticed because the elections in those states were not nearly so close as in Florida.

Over the last few months, Congress has had the change to explore some of the problems that plague our voting systems through several Congressional hearings on this issue, both in this Committee and in the other Committee on which I serve—House Administration. It is clear from testimony's we've heard during these hearings that we must develop updated standards for voting systems if we expect those systems to perform reliably on election day. The current federal standards governing voting equipment just don't measure up to the needs of our local, state and federal electorate.

Updated standards can ensure that voting machines tally voter's ballots accurately. They can help reduce voter error by ensuring that new voting equipment is more user-friendly, and provides clear, simple procedures. And, as more and more counties and states buy voting technologies that rely increasingly on computers, standards for security will help prevent hidden voter fraud by clever computer hackers. To a large degree today, and even more so in the future, elections data will be recorded, counted, and achieved by computer, as well as transmitted over computer networks; we must be ready with robust standards to ensure that these systems meet the highest standards for computer security, integrity, accuracy, and privacy.

I am pleased that the Ehlers-Barcia bill that we have before us today addresses these concerns.

But before we get on with the markup, I want to take a moment to commend my colleague, Mr. Barcia, for his leadership on this issue and for bringing this problem before the House Science Committee. The legislation he introduced at the beginning of this Congress helped provide the foundation for the legislation before us today. In keeping with the bipartisan practice of this Subcommittee, Mr. Barcia and I have worked out an amendment, which I will describe later in the markup, that reflects both our ideas on how Congress can help solve this problem.

I look forward to continuing my work with Mr. Barcia, and all my colleagues on this Subcommittee, to pass this legislation through the House Science Committee, the full House of Representatives, and into law.

Chairman EHLERS. Last November, as the world placed Florida under a microscope to scrutinize its election, we saw just how vulnerable our Nation's voting systems are to err. In the months since, we have discovered these problems are not limited to Florida. They are rampant among many other states and local jurisdictions, but went unnoticed because the elections in those states were not nearly so close as in Florida. Over the last few months, Congress has explored some of the problems that plague our voting systems. Through several Congressional Hearings on this issue, both in this Committee and in the other Committee on which I also happen to serve, the House Administration Committee.

It is clear from testimony we have heard during these Hearings that we must develop updated standards for voting systems if we expect those systems to perform reliably on election day. The current Federal standards governing voting equipment just don't measure up to the needs of our local, state, and Federal electorate. Updated standards can ensure that voting machines tally voters' ballots accurately. They can help reduce voter error by ensuring

that new voting equipment is more user friendly and provides clear, simple procedures.

And as more and more counties and states buy voting technologies that rely increasingly on computers, standards for security will help prevent hidden voter fraud by clever computer hackers.

To a large degree today and even more so in the future, elections data will be recorded, counted, and archived by computer, as well as transmitted over computer networks. We must be ready with robust standards to ensure that these systems meet the highest standards for computer security, integrity, accuracy, and privacy.

I am pleased that the Ehlers/Barcia Bill that we have before us today addresses these concerns. But before we get on with the markup, I want to take a moment to commend my colleague, Mr. Barcia, for his leadership on this issue and for bringing this problem before the House Science Committee. The legislation he introduced at the beginning of this Congress helped provide the foundation for the legislation before us today. In keeping with the bipartisan practice of this Subcommittee, Mr. Barcia and I have worked out an amendment, which I will describe later in the markup. This amendment reflects both of our ideas on how Congress can help solve these problems.

I look forward to continuing my work with Mr. Barcia and with all of my colleagues on this Subcommittee to pass this legislation through the Full House Science Committee, the House of Representatives, and into law.

I recognize Mr. Barcia, the Ranking Minority Member of the Subcommittee, for his opening statement. Mr. Barcia.

Mr. BARCIA. Thank you very much, Mr. Chairman. I want to thank you, Mr. Chairman, for those kind remarks and say that I know this is a very busy day, so I will be very brief.

Early on, members of this Subcommittee identified the importance of standards for voting products and equipment to address the problems that were uncovered in the last election. We recognized the role of the National Institute of Standards and Technology in developing these technical standards. We also realized the Science Committee can play an important role in highlighting not only how standards could improve our voting system, but also stressed important areas of research that need to be done on voting technologies. And I want to thank all of these members for their work on, and support for, legislation related to voting technology standards.

If this Committee intends to emphasize the importance of standards in addressing the problems uncovered in the last election, we need to work together in a bipartisan way and present a unified Committee position. This Subcommittee is doing just that here today. The amendment in the nature of a substitute represents a valid and reasonable approach toward developing standards to improve the accuracy, integrity, and security of voting products and systems.

And it is my understanding that this legislation will be taken up by the Full Committee right after the Independence Day District Work Period.

In closing, I want to especially thank Chairman Ehlers for working closely with me to develop an amendment in the nature of a substitute and for continuing the strong bipartisan cooperation of

this Subcommittee. I also want to say that I will work diligently with the Chairman to ensure these provisions are incorporated into any comprehensive election reform bill. Thank you, Mr. Chairman.

OPENING STATEMENT OF HON. JIM BARCIA

This is a very busy day, so I will be very brief. Early on Members of this Subcommittee identified the importance of standards for voting products and equipment to address the problems that were uncovered in the last election. We recognized the role of the National Institute of Standards and Technology in developing these technical standards.

We also realized the Science Committee could play an important role in highlighting not only how standards could improve our voting system but also stressing important areas of research that need to be done on voting technologies. And I want to thank all these Members for their work on, and support for, legislation related to voting technology standards.

If this Committee intends to emphasize the importance of standards in addressing the problems uncovered in the last election we need to work together in a bipartisan way and present a unified Committee position. This Subcommittee is doing just that here today. The amendment in the nature of a substitute represents a balanced and reasonable approach for developing standards to improve the accuracy, integrity and security of voting products and systems. And it is my understanding that this legislation will be taken up by the Full Committee right after the Independence Day district work period.

In closing, I want to thank Chairman Ehlers for working closely with me to develop the amendment in the nature of a substitute. We have continued the strong bipartisan tradition of this Subcommittee. I also want to make it known that I will work with the Chairman to ensure these provisions are incorporated into any comprehensive election reform bill.

OPENING STATEMENT OF HON. CONSTANCE MORELLA

Mr. Chairman, I am pleased that you are holding this markup on HR 2275. With the clear problems associated with the last Presidential election, it is imperative that we take some action to improve the voting process.

America is still the gold standard of freedom, but we have a crisis of confidence in our electoral process. It is the right of every American to vote and have their vote counted. Yet, after 200 years of elections, we are apparently still unable to make this simple guarantee to the American people. We need to do better.

However, despite the obvious problems there are no obvious solutions. While partisan groups have predictably taken this opportunity to push their agendas, their rhetoric makes bad dialogue and even worse policy. It is true that we have neglected our electoral system for far too long. It is true that the last election had tremendous problems and grievous errors. However, we must not let the pendulum swing from one extreme to the other. We cannot simply replace our neglect with knee-jerk regulation and one-size fits-all policies. Replacing our current problems with unknown ones is not the way to strengthen and galvanize the process.

In a previous hearing, we heard about the difficult choices and potential future problems we now face. In particular, we heard about the uncertainty and concerns of voting experts with regard to both the current process and the proposed fixes. We learned that futuristic measures like Internet voting and digital recording, while seemingly attractive, have problems of their own and worse track records than punch cards. The last thing we need to do is replace our current system with an expensive new one that doesn't work any better. A haphazard guess is not a policy vehicle.

A measured response is far superior. It may not be as emotionally satisfying or make for a great sound bite to take home to our constituents, but the proper response when we have no idea what we are doing is to study, not to act. This bill is a good start. We need a mechanism for a formal review of our electoral process and our voting equipment. We need objective standards against which to measure our progress. And we need to periodically review our procedures and upgrade our technologies when prudent. With this bill, we will have these things. NIST is the nation's premier developer of measurement and standards and is well equipped to accomplish the goals of this legislation. Under this leadership, we will soon have the prescriptions for our voting ills.

Like many others, I would prefer a clear solution to our voting problems. I would like to make a clean sweep and enact a trouble ending, freedom-enhancing reform.

If there were one, I would support it. There isn't. But hopefully with this bill, one isn't too far off.

Chairman EHLERS. I thank the gentleman for his comments. I would also like to just take a moment to recognize the minority staff, which put a great deal of work into the original bill. I appreciate the efforts they did and also, the majority staff for their considerable amount of work on this, and both staffs for the way they have worked together in developing a final product. Without objection, other members may place their opening statement in the record. So ordered. We will now consider H.R. 2275, Voting Technology Standards Act of 2001. I ask unanimous consent that the bill be considered as read and open to amendment at any point. So ordered. We will move to the first amendment on the roster, which is an amendment in the nature of a substitute offered by Mr. Barcia and myself.

Chairman EHLERS. The Clerk will report the amendment.

Ms. DERR. Amendment in the nature of a substitute to H.R. 2275—

Strike all after the enacting clause and insert the following:

SECTION 1. SHORT TITLE.

This Act may be cited as the "Voting Technology Standards Act of 2001".

SEC. 2. DEFINITIONS.

For purposes of this Act—

- (1) the term "technical standards" means performance-based standards and conformance specifications; and
- (2) the term "voting products and systems" includes products and systems relating to every stage of the voting process, from voter registration through recounts and archiving.

SEC. 3. VOTING TECHNOLOGY STANDARDS.

(a) COMMISSION.—

(1) ESTABLISHMENT.—There is established a commission to develop voluntary technical standards to ensure the usability, accuracy, security, and integrity of United States voting products and systems.

(2) MEMBERSHIP.—The Commission shall consist of—

- (A) the Director of the National Institute of Standards and Technology, who shall serve as the chair of the Commission;
- (B) two representatives of the National Association of State Election Directors, selected by that association, one Republican and one Democrat;
- (C) one representative of the American National Standards Institute, selected by that institute; and
- (D) nine additional members selected by the members described in subparagraphs (A) through (C) by unanimous vote, of which at least two shall be local election officials;

(3) TERMS.—(A) Except as provided in subparagraph (B), (C), or (D) of this paragraph, each member selected under paragraph (2)(B), (C), or (D) shall serve a term of 6 years.

(B) Four of the members initially appointed under paragraph (2)(D) shall be appointed for an initial term of 3 years.

(C) The members initially appointed under paragraph (2)(B) shall be appointed for an initial term of 4 years.

(D) The member initially appointed under paragraph (2)(C) shall be appointed for an initial term of 5 years.

(E) Members may serve for more than 1 term.

(F) Any member appointed under paragraph (2)(D) to fill a vacancy occurring before the expiration of the term for which the member's predecessor was appointed shall be appointed only for the remainder of that term. A member may serve after the expiration of that member's term until a successor has taken office, but not more than 1 year. A vacancy in the Commission shall be filled in the manner in which the original appointment was made.

(4) TRAVEL EXPENSES.—Each member shall receive travel expenses, including per diem in lieu of subsistence, in accordance with applicable provisions under subchapter I of chapter 57 of title 5, United States Code.

(5) **QUORUM.**—The Commission shall conduct no business, other than appointing members under paragraph (2)(D), before all members of the Commission have been appointed. Nine members of the Commission shall constitute a quorum.

(6) **ADMINISTRATIVE AND TECHNICAL SUPPORT.**—Upon the request of the Commission, the Director of the National Institute of Standards and Technology shall provide to the Commission the administrative and technical support necessary for the Commission to carry out its responsibilities under this Act.

(b) **DEVELOPMENT OF VOLUNTARY TECHNICAL STANDARDS.**—

(1) **PROCEDURES.**—Not later than 90 days after the date of the enactment of this Act, the Commission shall publish in the Federal Register a description of the procedures it will use to establish voluntary technical standards under this subsection, along with a list of the members of the Commission.

(2) **ESTABLISHMENT OF VOLUNTARY TECHNICAL STANDARDS.**—Not later than 9 months after the date of the enactment of this Act, the Commission shall establish, and publish in the Federal Register, such voluntary technical standards as are necessary to ensure the usability, accuracy, security, and integrity of United States voting products and systems.

(3) **REVIEW AND UPDATE.**—The Commission shall review the voluntary technical standards established under this subsection at the conclusion of every even-numbered year, and shall determine whether new or updated voluntary technical standards are necessary to ensure the usability, accuracy, security, and integrity of United States voting products and systems. If the Commission determines that such new or updated voluntary technical standards are necessary, the Commission shall publish in the Federal Register the findings of its review, an explanation for its decision, and the new or updated voluntary technical standards.

SEC. 4. LABORATORY ACCREDITATION.

Not later than 6 months after the initial publication of voluntary technical standards established under section 3(b)(2), the National Institute of Standards and Technology shall accredit independent, non-Federal laboratories to test and certify that voting products and systems conform with the voluntary technical standards established by the Commission.

SEC. 5. INFORMATION DISSEMINATION.

The National Institute of Standards and Technology, after consultation with the Commission, shall—

(1) disseminate voluntary technical standards established under section 3(b), other relevant technical information, guidelines for usage of the voluntary technical standards, and any other information appropriate to assist in the implementation of the voluntary technical standards;

(2) maintain and make available a list of laboratories accredited under section 4; and

(3) maintain and make available a list of United States voting products and systems that have been certified by a laboratory accredited under section 4 to conform with the voluntary technical standards established by the Commission.

SEC. 6. RESEARCH AND DEVELOPMENT PROGRAM.

The Director of the National Institute of Standards and Technology shall establish a program for research and development in areas to support the development of voluntary technical standards established under section 3(b) for voting products and systems, including research and development on—

(1) the security of computers, computer networks, and computer data storage used in voting products and systems, including methods to detect and prevent fraud;

(2) protection of voter privacy;

(3) human factors in the design and application of voting products and systems, including assistive technologies for persons with disabilities; and

(4) remote access voting, including Internet voting.

SEC. 7. REPORT TO CONGRESS.

Not later than 1 year after the date of the enactment of this Act, the Commission shall transmit to the Congress a report that—

(1) assesses the areas of human factors research, including usability engineering and human-computer and human-machine interaction, that feasibly could be applied to voting products and systems design to ensure the usability and accuracy of United States voting products and systems, including to improve access by the disabled and to reduce voter error and the number of spoiled ballots in elections;

(2) assesses the potential demand by State and local governments for technical assistance in implementing voluntary technical standards established under section 3(b), and makes recommendations on how best to address that demand;

(3) makes recommendations for methods of promoting the implementation of voluntary technical standards established under section 3(b); and

(4) assesses the need for a grant program or other mechanism to ensure the accreditation and operation of a sufficient number of laboratories to test and certify voting products and systems.

Chairman EHLERS. I ask unanimous consent to dispense of the reading. Without objection, so ordered. I now recognize myself for 5 minutes to explain this bipartisan amendment.

[Statement of Chairman Ehlers follows:]

AMENDMENT IN THE NATURE OF A SUBSTITUTE EXPLANATION

The amendment offered by Mr. Barcia and me is a complete substitute for the original text of the bill. Its intent is to ensure the development of robust technical standards for accuracy, integrity, and usability of voting products and systems used in the United States.

We need standards for accuracy, because voting machines must first and foremost tally the vote accurately. We need standards for integrity, because voting equipment must perform its job well and perform it reliably, year after year. We need standards for security, because voting technologies increasingly rely on computers to tally and transmit elections results over computer networks. And we need standards for usability because if we are to reduce voter error, if we are to ensure that citizens are not confused by new voting technologies, if we are to provide access to voting for persons with disabilities—we must ensure that voting equipment is user-friendly.

First, the amendment establishes a 13 member commission that will develop voluntary technical standards for voting products and systems. The Commission will consist of the Director of the National Institutes of Standards and Technology, who will serve as its chair, a member of the American National Standards Institute, and representatives from state and local governments. NIST is the nation's premier federal laboratory and will provide the technical advice for developing these new standards, while state and local election officials will be able to provide valuable first-hand experience necessary for developing the standards.

The Commission will have an on-going duty to review the standards after every federal general election and ensure they are up-to-date.

Second, the amendment directs NIST to accredit laboratories around the country to test voting equipment. NIST will also publish information on which products and systems have been certified by accredited labs as meeting the new standards. Under this system, when states decide to upgrade their voting machines, they will be able to quickly and easily check to see if the voting equipment they are buying meets the highest standards.

Third, the amendment establishes a research program at NIST to help improve voting system technology. NIST will conduct research on ways to improve computer security, detect and prevent fraud, protect voter privacy, and ensure the security and integrity of Internet voting. The Institute will also conduct research in an area where I think it is sorely needed—human factors. This research will help improve voting machines by making them more easy-to-use for the elderly, for persons with disabilities, and for all Americans.

I want to commend Mr. Barcia and his staff for their support, cooperation and dedication in working with me to craft this amendment. I urge my colleagues to support this bipartisan amendment today and to work with us to pass it through the Full Committee and bring it up before the House as expeditiously as possible.

Chairman EHLERS. The amendment offered by Mr. Barcia and me is a complete substitute for the original text of the bill. Its intent is to ensure the development of robust technical standards for accuracy, integrity, security, and usability of voting products and systems used in the United States.

We need these standards for accuracy because voting machines must first and foremost tally the vote accurately. We need standards for integrity because voting equipment must perform its job well and perform it reliably, year after year. We need standards for

security because voting technologies increasingly rely on computers to tally and transmit election results over computer networks. And we need standards for usability because if we are to reduce voter error, if we are to ensure that citizens are not confused by new voting technologies, if we are to provide access to voting for persons with disabilities, we must ensure that voting equipment is user friendly.

First, the amendment establishes a 13 member commission that will develop voluntary technical standards for voting products and systems. The commission will consist of the Director of the National Institutes of Standards and Technology, who will serve as it's Chair, a member of the NARCA National Standards Institute, and representatives from State and local governments. NIST is the Nation's premiere Federal Laboratory and will provide the technical advice for developing these new standards, while State and local officials will be able to provide valuable first-hand experience necessary for developing the standards.

The commission will have an ongoing duty to review the standards after every Federal general election and ensure they are up to date.

Second, the amendment directs NIST to accredit laboratories around the country to test voting equipment. NIST will also publish information on which products and systems have been certified by accredited labs. Under this system, when States decide to upgrade their voting machines, they will be able to quickly and easily check to see if the voting equipment they are buying meets the highest standards.

Third, the amendment establishes a research program at NIST to help improve voting system technology. NIST will conduct research on ways to improve computer security, detect and prevent fraud, protect voter privacy, and ensure the security and integrity of internet voting. The institute will also conduct research in an area where I think it is sorely needed—human factors. This research will help improve voting machines by making them more easy to use for the elderly, for persons with disabilities, and for all Americans.

I wanted to commend Mr. Barcia and the staff for their support, cooperation, and dedication in working with me. I urge my colleagues to support this bipartisan amendment today and to work with us to pass it to the Full Committee and bring it up before the House as expeditiously as possible.

Now, I would like to yield to Mr. Barcia for any comments he may have on the amendment.

Mr. BARCIA. Thank you, Mr. Chairman. Chairman Ehlers has explained, in detail, the provisions of the Ehlers/Barcia amendment. I have already talked about how this amendment is a result of strong bipartisan effort and agreement. So I will close by urging my colleagues to support this amendment in the nature of a substitute. Thank you.

Chairman EHLERS. Thank you, Mr. Barcia. Is there any further discussion? Hearing none, the vote occurs on the amendment. All in favor of this amendment, say aye. "Aye". Those opposed, Say no. The amendment is adopted. Are there any further amendments? Hearing none, the question is on the bill, H.R. 2275, as amended.

All those in favor will say aye. "Aye". All those opposed will say no. In the opinion of the Chair, the ayes have it.

I now recognize Mr. Barcia for a motion.

Mr. BARCIA. Mr. Chairman, I move that the Subcommittee favorably report the bill H.R. 2275, as amended, to the Full Committee with the recommendation that it be in order for the amendment in the nature of a substitute adopted by the Subcommittee be considered as an original bill for the purpose of amendment under the five minute rule at Full Committee. Further, I ask unanimous consent that the staff be instructed to make all necessary technical and conforming changes to the bill, as amended, in accordance with recommendations of the Subcommittee.

Chairman EHLERS. The Committee has heard the motion. Those in favor will say aye. "Aye". Those opposed will say no. The ayes have it and the motion is agreed to. Without objection, the motion to reconsider is laid upon the table. This concludes our Subcommittee markup. I wish to thank the members for their attendance and I look forward to your support as we proceed further to Full Committee and thence, to the House floor. Thank you, once again, to all members attending and to the staff for their diligent work. With that, the markup is adjourned.

[Whereupon, at 2:20 p.m., the Subcommittee was adjourned.]

XXI. PROCEEDINGS OF THE FULL COMMITTEE MARKUP

H.R. 2275, VOTING TECHNOLOGY STANDARDS ACT OF 2001

JULY 18, 2001

COMMITTEE ON SCIENCE,
HOUSE OF REPRESENTATIVES,
Washington, DC.

The committee met, pursuant to call, at 5:30 p.m., in room 2318 of the Rayburn House Office Building, Hon. Sherwood L. Boehlert, chairman, presiding.

Chairman BOEHLERT. Good afternoon. The Science Committee will come to order. Our first order of business today is to recognize the newest member of the committee, the gentleman from Virginia, Mr. Forbes. I am certain that you all join me in welcoming Mr. Forbes to the committee. By order of the Republican Conference of the House Committee on Science, Mr. Forbes has been selected to serve on the Subcommittee on Space and Aeronautics and the Subcommittee on the Environment, Technology, and Standards. Without objection, so ordered.

Chairman I now recognize the Ranking Member, Mr. Hall, for the purposes of appointing the gentleman from Utah, Mr. Matheson, to the Subcommittee on the Environment, Technology, and Standards.

Mr. HALL. I would like to appoint Mr. Matheson to the Subcommittee on the Environment, Technology, and Standards.

Chairman BOEHLERT. Without objection, so ordered.

Pursuant to notice, the Committee on Science is meeting today to consider the following measures: H.R. 2275, the Voting Tech-

nology Standards Act of 2001 and H.R. 2460, Comprehensive Energy Research and Technology Act of 2001.

I ask unanimous consent for the authority to recess the Committee at any point, and without objection, it is so ordered.

The Committee will now consider H.R. 2275. Last November, as the world placed Florida under a microscope to scrutinize its elections, America saw for the first time the extent to which the most sacred tenet of our democracy—the right to vote—could be foiled by faulty technology.

As the problems with Florida's now-infamous system of punch card ballots unfolded in the weeks after the election, Americans watched in amazement. It was only later that we learned that other states had many times experienced similar problems, but that such problems seldom come to light without the scrutiny that a close election invites.

Many of the reported problems have been blamed on the ways in which elections have been administered. Still, many other problems have been directly attributed to substandard voting technology. A report released Monday by Caltech and MIT showed just how heavily voting technology affects the number of spoiled and lost ballots.

Another recent report, this one by the House Government Reform Committee Minority, showed that improved technology could dramatically reduce the disparity between the number of spoiled ballots cast in affluent and low-cost districts.

The mounting evidence clearly shows that improved voting technology is an important part of the solution.

This bill attempts to improve voting technology by establishing higher standards for accuracy, usability, integrity and security. I would like to congratulate Subcommittee Chairman Ehlers and Ranking Member Barcia for their hard work in developing this legislation. Theirs is a good bill, a bipartisan bill. It deserves support, and should be signed into law.

[Statement of Chairman Boehlert follows:]

STATEMENT OF HON. SHERWOOD BOEHLERT

Last November, as the world placed Florida under a microscope to scrutinize its elections, America saw for the first time the extent to which the most sacred tenet of our democracy—the right to vote could be foiled by faulty technology.

As the problems with Florida's now-infamous system of punch card ballots unfolded in the weeks after the election, America watched in amazement. It was only later that we learned that other states had many times experienced similar problems, but that such problems seldom come to light without the scrutiny that a close election invites.

Many of the reported problems of the last elections have been blamed on the ways in which they have been administered. Still, many other problems have been directly attributed to substandard voting technology. A report released Monday by Caltech and MIT showed just how heavily voting technology affects the number of spoiled and lost ballots.

Another recent report, this one by the House Government Reform Committee Minority, showed that improved technology could dramatically reduce the disparity between the number of spoiled ballots cast in affluent and low-income districts.

The mounting evidence clearly shows that improved voting technology is an important part of the solution.

This bill attempts to make those improvements by establishing higher standards for accuracy, usability, integrity, and security for voting technology. I would like to congratulate Subcommittee Chairman Ehlers and Ranking Member Barcia for their hard work in developing this legislation. Theirs is a good bill. It deserves support and should be signed into law.

I now yield my remaining time to Subcommittee Chairman Ehlers.

Chairman BOEHLERT. I now yield my remaining time that I have to Subcommittee Chairman Ehlers.

Mr. EHLERS. Thank you, Mr. Chairman. As Americans, we believe that every vote should count, but since last fall's elections, study after study has emerged to expose the flaws in voting technology that have thwarted the will of millions of Americans who have gone to the polls to exercise that most fundamental democratic right.

In the latest study, released this week by a joint project between Caltech and MIT, a team of researchers found that 1.5 to 2 million votes were not counted because of substandard equipment. Furthermore, the study found that the number of votes lost was directly related to the type of voting equipment used.

We cannot and should not tolerate this any longer. This Committee, with its jurisdiction over technical standards and its expertise in technology, can help.

The bill before us today would help set higher standards for accuracy, integrity, security, and usability of voting equipment used in the United States.

We need standards for accuracy, because voting machines must first and foremost tally the vote accurately.

We need standards for integrity, because year in and year out voting equipment must perform its job well, and perform it reliably.

We need much more robust standards for security, because increasingly voting technologies rely on computers to tally and transmit elections results over computer networks, exposing our elections in entirely new ways to computer hackers, hackers who may have either mischievous or criminal intent.

And, if we are to reduce voter error, ensure that students are not confused by new voting technologies, and provide access to the voters for persons with disabilities, we must ensure that voting equipment is user-friendly.

The bill establishes a Commission to be chaired by the director of the National Institute of Standards and Technology, and to include state and local election officials. This Committee will, Commission will develop those technical standards. And, after every election, the Standards commission will review them and update them as necessary.

Finally, the bill establishes a research program at NIST to improve computer security, detect and prevent fraud, protect voter privacy, ensure the security and integrity of internet voting, and improve designs to provide access for persons with disabilities.

I want to thank Congressman Barcia, with who I have worked closely to develop this legislation, and Chairman Boehlert, for bringing this bill before the full Committee for its consideration.

[Statement of Congressman Vernon Ehlers follows:]

STATEMENT OF HON. VERNON EHLERS

As Americans we believe that every vote should count. But, since last fall's elections, study after study has emerged to expose the flaws in voting technology that have thwarted the will of millions of Americans who have gone to the polls to exercise that most fundamental democratic right.

In the latest study, released this week by a joint project between Caltech and MIT, a team of researchers found that 1.5 to 2 million votes were not counted because of substandard equipment. Furthermore the study found that the number of votes lost was directly related to the type of voting equipment used.

We cannot and should not tolerate this any longer. This Committee, with its jurisdiction over technical standards and its expertise in technology, can help. The bill before us today would help set higher standards for accuracy, integrity, security, and usability of voting equipment used in the United States.

We need standards for accuracy, because voting machines must first and foremost tally the vote accurately.

We need standards for integrity, because, year in and year out, voting equipment must perform its job well and perform it reliably.

We need much more robust standards for security, because increasingly voting technologies rely on computers to tally and transmit elections results over computer networks, exposing our elections in entirely new ways to computer hackers—hackers who may have either mischievous or criminal intent.

And, if we are to reduce vote error, ensure that citizens are not confused by new voting technologies, and provide access to the vote for persons with disabilities, we must ensure that voting equipment is user-friendly.

The bill establishes a Commission be chaired by the director of the National Institute of Standards and Technology and to include state and local election officials, that will develop those technical standards. And after every election, the Standards commission will review them and update them as necessary.

Finally, the bill establishes a research program at NIST to improve computer security, detect and prevent fraud, protect voter privacy, ensure the security and integrity of Internet voting, and improve designs to provide access for persons with disabilities.

I want to thank Congressman Barcia, with whom I've worked closely to develop this legislation, and Chairman Boehlert, for bringing the bill before the full Committee for its consideration. I urge my colleagues to support this bill and help us restore the belief that every vote counts.

Mr. EHLERS. I urge my colleagues to support his bill and help us restore the belief that every vote counts, and must be counted.

Chairman BOEHLERT. Thank you very much, Dr. Ehlers.

The Chair now recognizes Mr. Hall for five minutes.

Mr. HALL. Chairman Boehlert and Chairman Ehlers have already explained the provisions of the bill, and I would just limit my comments to the process to develop this piece of legislation.

Everyone can agree that this country should have the best voting system in the world, and the last election showed that we could probably do a little better with the technology we have in hand. Although I was totally satisfied with the outcome of the count down there, they counted, insofar as I am concerned, exactly right, and we have a Texan in the White House today, as a result of that count.

This is an issue where this Committee seriously has specific expertise, and can make a very important contribution. The Republican and Democratic staff work closely together, and I thank you, Mr. Chairman.

Resource requirements for voting equipment, specifically, you have developed a hearing that focused on this issue, and focused on the issue of technical standards. This piece of legislation is going to include accuracy, and I again thank the Chairman Boehlert and Chairman Ehlers for their strong spirit of cooperation and leadership. I also want to thank Mr. Barcia for his early leadership in this. He came on the stage early, and brought his ideas, and brought this issue to the Committee's attention. And I think much of the reason we are here today is because of his vision, his timely vision of the role this Committee can play in addressing these technical problems.

This is a good bill, and I urge my colleagues to support it, and I would like to yield the balance of my time to Representative Barcia.

Chairman BOEHLERT. Mr. Barcia.

Mr. BARCIA. Thank you very much. I will try to speak up.

I want to thank you, Mr. Chairman, and Representatives Hall, and Chairman Ehlers, and just say that I will be brief, as the other presenters have, as well. I want to highlight the findings of the final report of the voting technology project by the California Institute of Technology and the Massachusetts Institute of Technology, Caltech and MIT have carefully researched a technical report on the mechanics, not the politics, of the election process.

Upon the recommendations of the report, there is a need to create a new agency to develop election technology standards and to conduct research for improving voting systems. Implicit in these recommendations is the notion that the current system for both standards, and development, and research are inadequate.

H.R. 2275 specifically addresses these major concerns.

Chairman Ehlers and I have focused on the technical problems within our election system, and the best way to develop solutions based on technology and research. It has been a pleasure to work with Chairman Ehlers on this legislation.

I also want to especially thank Chairman Boehlert and Ranking Member Hall for their leadership on this legislation and also bringing this bill so quickly before the full committee. And I would urge my colleagues to support this legislation.

Thank you, Mr. Chairman.

STATEMENT OF HON. JIM BARCIA

I will be very brief as well. I just want to highlight the findings of the final report of the Voting Technology Project by the California Institute of Technology and the Massachusetts Institute of Technology. Caltech and MIT produced a carefully researched technical report on the mechanics, not the politics, of our election process.

Among the recommendations of the report is the need to create a new agency to develop election technology standards and to conduct research for improving voting systems. Implicit in these recommendations is the notion that the current system for both standards development and research are inadequate. H.R. 2275 specifically addresses these two major concerns.

Chairman Ehlers and I have focused on the technical problems within our election system and the best way to develop solutions based on technology and research. It has been a pleasure to work with Chairman Ehlers on this legislation. I also want to thank Chairman Boehlert and Ranking Member Hall for bringing this bill so quickly before the Full Committee.

I would urge my colleagues to support this legislation.

Chairman BOEHLERT. Thank you very much, Mr. Barcia, and thank you Mr. Barcia and Ehlers for the outstanding work of the staff on both sides of the aisle in bringing this support.

I ask unanimous consent that the bill be considered as read and open to amendment at any point. I ask the Members to proceed with the amendments in the order of the roster.

I move that the first reading of the bill be dispensed with.

With no objection, so ordered.

The bill is now open for amendments.

Strike all after the enacting clause and insert the following:

SECTION 1. SHORT TITLE.

This Act may be cited as the "Voting Technology Standards Act of 2001".

SEC. 2. DEFINITIONS.

For purposes of this Act—

- (1) the term "technical standards" means performance-based standards and conformance specifications; and

(2) the term “voting products and systems” includes products and systems relating to every stage of the voting process, from voter registration through recounts and archiving.

SEC. 3. VOTING TECHNOLOGY STANDARDS.

(a) COMMISSION.—

(1) ESTABLISHMENT.—There is established a commission to develop voluntary technical standards to ensure the usability, accuracy, security, and integrity of United States voting products and systems.

(2) MEMBERSHIP.—The Commission shall consist of—

(A) the Director of the National Institute of Standards and Technology, who shall serve as the chair of the Commission;

(B) two representatives of the National Association of State Election Directors, selected by that association, one Republican and one Democrat;

(C) one representative of the American National Standards Institute, selected by that institute; and

(D) nine additional members selected by the members described in subparagraphs (A) through (C) by unanimous vote, of which at least two shall be local election officials;

(3) TERMS.—(A) Except as provided in subparagraph (B), (C), or (D) of this paragraph, each member selected under paragraph (2)(B), (C), or (D) shall serve a term of 6 years.

(B) Four of the members initially appointed under paragraph (2)(D) shall be appointed for an initial term of 3 years.

(C) The members initially appointed under paragraph (2)(B) shall be appointed for an initial term of 4 years.

(D) The member initially appointed under paragraph (2)(C) shall be appointed for an initial term of 5 years.

(E) Members may serve for more than 1 term.

(F) Any member appointed under paragraph (2)(D) to fill a vacancy occurring before the expiration of the term for which the member's predecessor was appointed shall be appointed only for the remainder of that term. A member may serve after the expiration of that member's term until a successor has taken office, but not more than 1 year. A vacancy in the Commission shall be filled in the manner in which the original appointment was made.

(4) TRAVEL EXPENSES.—Each member shall receive travel expenses, including per diem in lieu of subsistence, in accordance with applicable provisions under subchapter I of chapter 57 of title 5, United States Code.

(5) QUORUM.—The Commission shall conduct no business, other than appointing members under paragraph (2)(D), before all members of the Commission have been appointed. Nine members of the Commission shall constitute a quorum.

(6) ADMINISTRATIVE AND TECHNICAL SUPPORT.—Upon the request of the Commission, the Director of the National Institute of Standards and Technology shall provide to the Commission the administrative and technical support necessary for the Commission to carry out its responsibilities under this Act.

(b) DEVELOPMENT OF VOLUNTARY TECHNICAL STANDARDS.—

(1) PROCEDURES.—Not later than 90 days after the date of the enactment of this Act, the Commission shall publish in the Federal Register a description of the procedures it will use to establish voluntary technical standards under this subsection, along with a list of the members of the Commission.

(2) ESTABLISHMENT OF VOLUNTARY TECHNICAL STANDARDS.—Not later than 9 months after the date of the enactment of this Act, the Commission shall establish, and publish in the Federal Register, such voluntary technical standards as are necessary to ensure the usability, accuracy, security, and integrity of United States voting products and systems.

(3) REVIEW AND UPDATE.—The Commission shall review the voluntary technical standards established under this subsection at the conclusion of every even-numbered year, and shall determine whether new or updated voluntary technical standards are necessary to ensure the usability, accuracy, security, and integrity of United States voting products and systems. If the Commission determines that such new or updated voluntary technical standards are necessary, the Commission shall publish in the Federal Register the findings of its review, an explanation for its decision, and the new or updated voluntary technical standards.

SEC. 4. LABORATORY ACCREDITATION.

Not later than 6 months after the initial publication of voluntary technical standards established under section 3(b)(2), the National Institute of Standards and Technology shall accredit independent, non-Federal laboratories to test and certify that

voting products and systems conform with the voluntary technical standards established by the Commission.

SEC. 5. INFORMATION DISSEMINATION.

The National Institute of Standards and Technology, after consultation with the Commission, shall—

- (1) disseminate voluntary technical standards established under section 3(b), other relevant technical information, guidelines for usage of the voluntary technical standards, and any other information appropriate to assist in the implementation of the voluntary technical standards;
- (2) maintain and make available a list of laboratories accredited under section 4; and
- (3) maintain and make available a list of United States voting products and systems that have been certified by a laboratory accredited under section 4 to conform with the voluntary technical standards established by the Commission.

SEC. 6. RESEARCH AND DEVELOPMENT PROGRAM.

The Director of the National Institute of Standards and Technology shall establish a program for research and development in areas to support the development of voluntary technical standards established under section 3(b) for voting products and systems, including research and development on—

- (1) the security of computers, computer networks, and computer data storage used in voting products and systems, including methods to detect and prevent fraud;
- (2) protection of voter privacy;
- (3) human factors in the design and application of voting products and systems, including assistive technologies for persons with disabilities; and
- (4) remote access voting, including Internet voting.

SEC. 7. REPORT TO CONGRESS.

Not later than 1 year after the date of the enactment of this Act, the Commission shall transmit to the Congress a report that—

- (1) assesses the areas of human factors research, including usability engineering and human-computer and human-machine interaction, that feasibly could be applied to voting products and systems design to ensure the usability and accuracy of United States voting products and systems, including to improve access by the disabled and to reduce voter error and the number of spoiled ballots in elections;
- (2) assesses the potential demand by State and local governments for technical assistance in implementing voluntary technical standards established under section 3(b), and makes recommendations on how best to address that demand;
- (3) makes recommendations for methods of promoting the implementation of voluntary technical standards established under section 3(b); and
- (4) assesses the need for a grant program or other mechanism to ensure the accreditation and operation of a sufficient number of laboratories to test and certify voting products and systems.

Ms. JACKSON LEE. Mr. Chairman?

Chairman BOEHLERT. I see the gentle lady from Texas, Ms. Jackson Lee. You have the first amendment, are you ready to proceed?

Ms. JACKSON LEE. Yes I am.

Chairman BOEHLERT. You are recognized.

Ms. JACKSON LEE. Thank you, Mr. Chairman. I ask unanimous consent to dispense with the reading.

Page 3, line 7, insert “, but not more than 3 terms” after “1 term.”

Page 5, line 21, insert “The National Institute of Standards and Technology shall make an effort to accredit at least one minority-owned laboratory.” after “by the Commission.”

Page 6, line 9, insert “, including through the Internet,” after “make available.”

Page 7, line 3, insert “and varying levels of literacy” after “persons with disabilities”.

Page 7, line 6, strike “**REPORT**” and insert “**REPORTS**”.

Page 7, line 7, insert “(a) ONE-YEAR REPORT.—” before “Not later than”.

Page 8, after line 7, insert the following new subsection.

(b) TEN-YEAR REPORT.—Not later than 10 years after the date of the enactment of this Act, the Commission shall transmit to the Congress a report that—

- (1) identifies the States that have voluntarily complied with standards established pursuant to this Act; and
- (2) assesses the impact of this Act on the accuracy of vote tabulation.

Chairman BOEHLERT. Without objection, so ordered.

Ms. JACKSON LEE. Thank you very much, Chairman.

Let me first of all thank the Chairman, let me first of all thank the Chairman for, on behalf of the state of Texas, for it going before the House. Then, let me thank the Chairman and the Ranking Member for getting the Markup on this very important initiative, and we are here to recognize the value and importance of everyone's right to vote.

I also thank the ranking subcommittee member of this Committee, and the Chairman, Vernon Ehlers. And I would like to say they had one of the greatest turnouts in the state of Michigan, and I don't feel that the politics, but it was a very happy conclusion in that state.

But what I will say, however, Chairman, I will say this, that it is an important initiative. I had the opportunity to testify in the Senate, before the Science Committee, Commerce dealing with Technology, and I would like to add a few words, as I come a conclusion on my statement. I just felt that at the start of the 21st Century 3% of the precincts in the United States still use the oldest form of election technology, the paper ballot. Lever machines, first introduced in 1892 are used by 22%. The notorious punch card, introduced in 1964, has two forms the VoteoMatic type found in 33% of the nation's precinct and the DataVote type used in four percent of the nation's precincts. I think it is high time the Committee on Science be able to protect the right to vote.

This legislation establishes the mark of the Science Committee and what I believe is the ultimate outcome, to be able to say that every vote counts.

[Statement of Ms. Jackson Lee follows:]

STATEMENT OF HON. SHEILA JACKSON LEE

Chairman Boehlert and Ranking Member Hall I would like to thank and applaud you for bringing this legislation before the Full Committee for Markup. This is an opportunity for the House Science Committee to be the first House Committee to address the issue of voting reform in our Nation.

I have prepared an amendment for inclusion in H.R. 2275, the Voting Technology Standards act. This amendment would limit the number of terms served on the commission; make information provided by the work of the commission available over the Internet; ensure that development of voting technology standards will include the literacy level of the voter; and direct that after 10 years of the act being enacted that a report be provided on its effect on voting in the United States.

Voting is not just a right of passage from childhood to adult in our society; it is the principle of democracy expressed by everyone who exercises their free will to be heard on the Election Day or equally their choice of not casting a vote on Election Day.

We are here today to discuss the clear and evident failure of voting technology. However, we cannot ignore the clear and evident failure of the people charged with the legal and ethical responsibility of the administration of elections to do so in a nonpartisan unbiased manner. More than anything else the flaws in our nation's election process stemmed from a lack of commitment on the local level to not only the spirit, but also the letter of law that supports our democracy. We cannot call ourselves the leaders of the free world, because this title is reserved for those nations who work to earn it, through actions and not words.

At the start of the 21st Century, three percent of the precincts in the United States still use the oldest form of election technology, the paper ballot. Lever machines, first introduced in 1892 are used in 22% of today's precinct level elections across our country. The notorious punch card ballot, introduced in 1964, has two forms—the VotoMatic type found in 33% of the nation's precincts and the DataVote

type used in four percent of the nation's precincts. The Optical Scan, "marksense" or "bubble" ballot system introduced in the 1980s is used by 25% of the precincts and is found to have the greatest accuracy of all voting methods when joined with verification of intent at the voting location. Finally, the direct recording electronic (DRE) voting technology first introduced in the 1970s is an electronic version of the lever voting machine and is used by about seven percent of our nation's precincts.

The most popular form of voting in the United States is the marksense or bubble ballot system with over 1,200 counties currently using this method.

Securing the franchise for all American—voting rights from the beginning of the United States has been a right conveyed under condition. Today the issue of access to the ballot box is complicated by the fact that there are fifty states with the underlying bureaucratic complications of hundreds of county governments who administer the voting rolls for their respective states.

Currently, there are seven voting methods that are available for county governments to select from: DataVote punch card, other punch card, lever machine, paper ballot, mixed system, optical scan, and electronic.

A democracy is only as strong as its people, all of its people, and therefore for America to prosper its entire people must prosper!

I introduced the following bills to address the problems associated with the last presidential election: H.R. 60, the Secure Democracy for All Americans Act; H.R. 934, Presidential General Elections Would Become National Public Holidays; and House Concurrent Resolution 5, which expresses a sense of Congress that the election process in this country should be uniform.

It is my goal along with many of my colleagues to pursue national voting policies, which are not prone to bias, corruption or disruption. The most sacred and important process of our democracy is the act of voting.

It is my goal along with many of my colleagues to pursue national voting policies, which are not prone to bias, corruption or disruption. The most sacred and important process of our democracy is the act of voting.

Universal suffrage means that everyone should have an equal opportunity to vote, regardless of rank, social status, race, or social background. But over the past three decades studies have found increasing biases in turnout. In particular, people without college degrees have become less likely to go to the polls partly because the types of employment they are able to find offers little flexibility to visit the polls during working hours. Should Election Day during Presidential Election years become a public holiday, private employers would be strongly encouraged to also allow their employees to have that day as a holiday so that millions of voters would be free to vote anytime throughout that important day.

It may be difficult to reach agreement on the specifics of what should be done to improve our nation's system of electing the President, but everyone can agree that something should be done based on what we have learned from the last presidential election.

I would offer that this attempt to refine and create standards for the various methods of voting has merit. By creating standards that are federally regulated the nexus between voting rights, legislative action, and judicial review might be strengthened.

I for one do not find it excusable that the current technology used for choosing elected government in this country cannot better manage a close election.

What ever is done to address the issue of fairness in national, state, and local elections must address the need to restore confidence that the voters' collective will is done.

The health and security of our democracy is a stake should this congress and Administration fail to address the franchise rights of all Americans.

Ms. JACKSON LEE. As someone who has seen the results, by visiting various cities around the country, I can say to you that one thing Americans say, that they want our vote to count.

Mr. Chairman my amendment is a technical amendment, and I would like to ask unanimous consent to alter the amendment en bloc.

Chairman BOEHLERT. Without objection, so ordered.

Ms. JACKSON LEE. Thank you, Mr. Chairman. Very briefly, they include limited terms, the other aspects would ensure information regarding voting standards would also be made available over the internet. The dynamic technology that is evidenced in this room. Another part of the amendment would make sure that voting tech-

nology standards take into consideration literacy and language differences, so that we can ensure that every vote counts.

The last part of my amendment was to create a report that will provide insights on how many states are in voluntary compliance with the standards and abide by them, as well as determining the affect on the standards on voting after elections. In ten years there would have to be elections providing a basis for the study.

In conclusion, Mr. Chairman, I have legislation asking for us to have a holiday that will allow people to be able to move forward and to be able to vote on election day without restrictions. I hope that in other committees we will have an opportunities to look at many legislative issues, but in this committee I am very proud to support this legislation and ask that my amendment be supported and ask that the legislation as it relates to Texas. Thank you.

With that, I yield back.

Chairman BOEHLERT. Is there any further discussion on the amendment en bloc? If no, the vote occurs on the amendment.

All in favor say "aye."

Those opposed say "no."

The ayes have it, the amendment is agreed to.

Are there any further amendments? Hearing none, the Chairman will entertain a motion to report the bill.

The question is on the bill H.R. 2275, the Voting Technology Standards Act of 2001 as amended. All those in favor say "aye." Opposed "no." In the opinion of the Chair, the ayes have it.

Ranking Member Hall?

Mr. HALL. Mr. Chairman, I move that the Committee favorably report H.R. 2275 as amended. Furthermore, I move to instruct the staff to prepare the legislative report, to make the necessary technical and conforming changes, and that the Chairman take all necessary steps to bring the bill before the House for consideration.

Chairman BOEHLERT. The Chair notes the presence of a reporting quorum. The question is on the motion to report the bill, favorably. Those in favor of the motion will signify by saying "aye." Opposed "no."

The ayes appear to have it and the bill is favorably reported.

Without objection, the motion to reconsider is laid upon the table.

I move that Members have two subsequent calendar days in which to submit Supplemental, Minority, or Additional Views on the measure. Further, I move, pursuant to clause 1 of Rule 22 of the Rules of the House, that the Committee authorize the Chairman to offer such motions as may be necessary in the House to go to conference with the Senate on the bill H.R. 2275 or a similar Senate bill. Without objection, so ordered.

ADDITIONAL OPENING STATEMENT OF HON. CONSTANCE MORELLA

Mr. Chairman, we have before us today two important pieces of legislation, a voting technology bill and the Science Committee's portion of the national energy policy. I want to thank you for moving this legislation to the top of the Science Committee's agenda.

With all that happened at last year's presidential election, electoral reform needs to be addressed. However, despite the obvious problems, there are no obvious solutions. We have neglected our electoral system for far too long, but we cannot simply replace our neglect with knee-jerk regulation and one-size-fits-all policies. A haphazard guess is not a policy vehicle.

Recent studies have highlighted the difficulties of our current practices as well as warned us of potential future problems if we act too rashly. This bill addresses there

concerns. It calls for objective standards and creates a mechanism for a formal review of our electoral process and our voting equipment. Under the auspices of NIST, our premier developer of measurements and standards, we will soon have the prescriptions for our voting ills.

As for energy, the administration has laid out a broad plan and this bill represents the piece we have jurisdiction over. We have augmented the president's proposal with important research and development efforts in environmentally friendly areas such as hydrogen, biomass, and other renewable technologies. It has been a difficult struggle to bring together the various competing interests, but we have forged a bill that fairly balances the concerns of the environment with our all-to-real energy needs. I believe that the final product deserves our support.

In strongly urge my colleagues to pass both of these measures.

ADDITIONAL OPENING STATEMENT OF HON. J. RANDY FORBES

Mr. Chairman, I would like to express my support for both bills before our Committee today—the Comprehensive Energy Research and Technology Act and the Voting Technology Standards Act.

Given the events of last November in certain areas of Florida, there's hardly a state in the nation that is not looking for ways to ensure that their voting technologies are up-to-date and their voters know how to use them. The Voting Technology Standards Act would give the states some independent and expert guidance during this exercise. That guidance will come from a commission that draws on the experiences of state and local election officials as well as the expertise of those involved with the emerging voting technologies. Most important, perhaps, is that the decision on what to do with this advice and guidance is left to the states, so that they may fit the standards to the needs of their voters.

The same commission would also develop technical testing specifications for labs to use in certifying that voting systems meet the standards. A recent study by a team of scientists from the Massachusetts Institute of Technology (MIT) and the California Institute of Technology (Caltech) determined that there are a variety of technical problems that continue to plague many of our voting systems. And, as more and more states rely upon computer-based systems or other advanced systems for voting, it becomes increasingly important that we stay out in front of the technologies to ensure that we can meet problems head-on before, or at least as, they occur.

I also want to express my support for the Comprehensive Energy Research and Technology Act. Though energy literally makes the engines of our economy run and literally ensures our national security, we have been for far too long without a comprehensive and long-term national energy policy. Earlier this year, the Vice President and a panel from the President's Cabinet released a thorough package of recommendations to establish a national energy policy.

The plan's list of 105 recommendations includes a sensible balance of proposals to improve conservation, to increase our domestic supply of energy, and to strengthen our international energy sources. It is a fair and responsible proposal, and I am pleased that this Committee could be a part of it by passing the Comprehensive Energy Research and Technology Act.

This bill includes provisions to improve our research efforts on a variety of fronts, including renewables, clean coal, biomass, and nuclear power. It also helps localities to purchase alternative fuel vehicles and encourages conservation programs. It is a sound bill that leaves no stone unturned in our national search for a comprehensive energy policy.