TESTIMONY BEFORE THE U.S. ELECTION ASSISTANCE COMMISSION

Public Meeting on Management Guidelines

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I thank the EAC Commissioners for allowing me this opportunity to participate in the development of Election Management Guidelines. For me, this completes the set. I had the opportunity to participate in the initial development and implementation of Voting System Standards and now you have provided me the opportunity to participate in the development of Election Management Guidelines. Although both of these projects have tremendous significance for elections, I believe that when history looks back on this era of elections the Management Guidelines will be viewed as having the bigger impact on the conduct of elections.

The mechanics of conducting an election have not changed since the first cave men elected the leader of their hunting party. An office is defined, candidates are qualified, voters vote, the votes are counted, and the winners are announced. What has changed over the years is the complexity of conducting an election. Millions of people vote and the candidates and media want the results before the eleven o'clock news comes on. This can only be accomplished by using machines.

In the 1930's lever voting machines were hailed as a great innovation in elections. If there were concerns about the fact that there was no paper ballot and no audit trails these concerns were smothered by the accuracy of the machines and the rapid availability of results. Results were available on the back of the machine as soon as the polls closed. Jurisdiction results were available as soon as the individual results from the voting machines could be added up.

In the 1960's IBM introduced the first computer voting system employed to tally elections and the shift from lever machines to computer voting systems began. These early systems were only available to jurisdictions that were large enough to have mainframe computers. When desktop computers became available in the 1980's computer voting systems were available to

the smallest jurisdictions and the shift to computer voting systems gained momentum.

This shift from lever voting machines to computer based voting systems had nothing to do with the lack of paper ballots on lever machines or their lack of any kind of audit trail. This shift occurred simply because a lever voting machine weighed about 800 pounds and the logistics of storing and moving these machines was a major impediment to their use.

From their introduction in 1964 until 1990 the development, marketing, sales, and use of computer based voting systems was unregulated. In this era a computer based voting system was whatever the vendor said it was and whatever a jurisdiction could be convinced to purchase and use.

The Federal Election Commission began the development of voting system standards in 1986. This effort resulted in the publication of the first ever set of voting system standards in January 1990. This standard was directed primarily toward the hardware associated with voting and did not address the software system that we now call the election management system.

In 1994 the National Association of State Election Directors (NASED) formed a Voting Systems Board and undertook to implement the 1990 FEC standards. In the period between 1990 and 1994 several states developed their own certification process and used Wyle Laboratories, Inc. in Huntsville, Alabama to perform the environmental tests specified in the 1990 standards. As a result of this experience Wyle became the first NASED certified Independent Test Agency (ITA) and continues in that role today.

Over time, the 1990 standards were interpreted to include the election management software and the 2002 standards specifically included standards for election management software. Since their expertise was primarily in hardware, Wyle requested that NASED identify a software firm to evaluate the election management software. Nichols Research Corporation in Huntsville, Alabama became the first software ITA. This function passed from Nichols to Ciber, Inc. through a series of acquisitions and mergers. SysTest Labs, LLC, a woman-owned corporation, became the first ITA certified by NASED to perform both hardware and software evaluations.

Although the NASED voting system certification program is entirely voluntary, over 75% of the states have joined the program and require that the voting systems used in the state are NASED certified. It is worth noting that this entire NASED voting system certification program was organized and implemented by unpaid volunteers.

The period from 1990 to 2000 is characterized by a slow, deliberate movement from older technologies, punch card and lever machine voting systems, to newer technologies, optical scan and direct recording electronic (DRE) voting machines. The slow movement was due primarily to funding. Voting systems were purchased by local jurisdictions, counties and cities, where election officials were competing for with police departments, health departments, sanitation departments, schools, etc. for limited funds.

The voting system vendor community was sized and staffed to respond to this slow, deliberate shift in voting systems. It was fairly easy for a voting system vendor to identify those jurisdictions that were prime candidates for a new voting system and plan accordingly. In November of 2000 this situation changed dramatically.

The disputed presidential election of 2000 brought election technology into America's living rooms. Millions watched as election officials, lawyers, and politicians discussed whether or not a 'pregnant' or 'hanging' chad should be counted as a vote. Punch card and lever voting systems were portrayed as antiquated systems that presented an unacceptable level of difficulty of use for the voters. The DRE voting system was viewed as the logical successor to the lever machine and two states, Georgia and Maryland, responded by deploying DRE voting machines statewide.

Soon, computer scientists began to question the security of these paperless DRE voting machines, and to a lesser extent, the optical scan voting machines. Their contention was that computers control these voting systems and, thus, they are vulnerable to hacking and fraud. Some computer scientists went so far as to claim that it is impossible to build a secure computer-based voting system and that the only way to avoid election fraud is to hand count paper ballots.

Nevada became the first state to require that their DRE voting machines produce a voter verified paper audit trail (VVPAT). Sequoia responded to this requirement by producing a printer module that attached to their Edge

DRE voting machine. The other voting system vendors soon followed this action. To date, twenty-five states have adopted a requirement for a VVPAT or a similar paper ballot.

This increased attention to elections prompted action in Congress. The Help America Vote Act of 2002 (HAVA) established the Election Assistance Commission (EAC) and directed the EAC to adopt voluntary voting system guidelines, and to provide for the testing, certification, de-certification, and re-certification of voting system hardware and software. The EAC formed the Technical Guidelines Development Committee and this committee, with technical support from the National Institute for Standards and Technology, developed the 2005 Voluntary Voting Systems Guidelines, and referred to as the 2005 VVSG.

The 2005 VVSG is essentially an update to the 2002 standards with new requirements for usability, accessibility, voting system software distribution, validation of software during voting system setup, and the use of wireless communications. Requirements for an optional VVPAT are included for those states that require this feature.

The 2005 VVSG received final approval in December 2005 and will take effect in December 2007. After that date, all voting systems submitted for national certification, whether new or modified systems, will be required to conform to the 2005 VVSG. The EAC is presently putting in place the program for testing and certifying voting systems. The transfer of this responsibility from NASED to the EAC is planned for July 2006.

There is one feature of HAVA that completely changed the dynamics of the election environment: for the first time in the history of elections significant funds were made available for the purchase of voting systems, with the caveat that these funds could not be used to purchase punch card or lever voting systems.

Neither the voting system vendors nor the election jurisdictions were prepared for this sudden influx of funds. In the rush to upgrade their voting systems jurisdictions underestimated the effort and time required to convert from punch card or lever voting systems to optical scan or DRE voting systems. Vendors increased production at the expense of quality control and user training and support.

The results were predictable. Already in this primary season we have seen stressed elections in several jurisdictions, notable Chicago and Cook County.

Throughout all of this history, from 1990 to the present, the emphasis has been on the voting system. How do we make the voting system more secure? Can we protect the voting system from hackers? How do we produce a VVPAT on a DRE voting machine? Should source code be subject to open review? Are optical scan voting systems better than DRE voting systems? The consensus of opinion seems to be that if we can just cure the problems with the voting systems then everything will be all right.

A review of the history of elections does not support this view. It is difficult to find a single incident where an election anomaly was a direct result of the voting system. Thousands of jurisdictions have conducted thousands of good elections using punch card voting systems. The state of New York has successfully voted on lever machines for over forty years. There has never been a single incident of anyone even attempting to defraud an election by altering the voting system computer program.

Should we continue to improve our voting systems? Certainly. Most of the criticism of the existing voting systems is valid and we should constantly strive to correct deficiencies and improve the systems. However, if by some miracle, we could instantly develop the quintessential voting system it would have minimal impact on the successful conduct of elections.

This is because election anomalies are rarely caused by the voting system. They are caused by human mistakes. Not by people intent upon malicious mischief or fraud, but by honest, well-meaning people making perfectly normal human mistakes.

It follows that the biggest payoff in improving elections is not to be gained by building bigger and better voting systems but by eliminating, or at least minimizing, human mistakes. This brings us to the need for election management guidelines.

During the entire history of the NASED voting certification project the members of the NASED Voting System Board, and particularly Tom Wilkey, have discussed the need for election management guidelines. Up until now, there have been simply no resources available to devote to this development effort.

This changed in September of 2005 when the EAC contracted with Brit Williams and Connie Schmidt to lead an effort to develop a comprehensive set of election management guidelines. These guidelines would be gleaned from the best practices available from state, county, and city election administrators.

Again, I thank the EAC Commissioners for providing me an opportunity to participate in this project to develop Election Management Guidelines and for the opportunity to present our progress on this project.

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