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**Hearing of the New York State Senate Standing Committee on Elections  
October 9, 2009, New York City, New York  
Joseph P. Addabbo, Jr., Chair**

**Testimony of Ellen Theisen, Director, VotersUnite.Org  
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**A National Perspective on the Use of Electronic Ballot Scanners  
and the Dependence on Voting System Vendors**

My name is Ellen Theisen. I am the founder and director of VotersUnite.org. I have spent the last six years documenting the experiences of counties and states nationwide as they used electronic voting and vote-counting equipment. I appreciate the opportunity to share important information with this committee.

I have published more than 20 major studies since 2003 including:

- ◆ **“Mythbreakers for Election Officials,”** a 2004 collection of information correcting election-related misconceptions about topics such as HAVA, costs associated with electronic voting equipment, and problems associated with their use.
- ◆ **“E-Voting Failures in the 2006 Mid-Term Elections,”** an analysis of 1022 reports of problems associated with electronic voting equipment from 314 counties in 36 states.
- ◆ A series of vendor-specific reports tracking problems reported in the news regarding the vendor’s electronic election equipment across the United States.
- ◆ **“Voting System Companies Fail to Meet New York State’s Requirements for Responsible Contractors,”** a 2007 report providing documented evidence revealing that the four voting system companies then under consideration in New York fail to meet New York State’s criteria for responsible contractors.
- ◆ **“Vendors are Undermining the Structure of U.S. Elections.”** Featured in an August 2008 “Lou Dobbs Tonight” segment, this report focuses on eight case studies that demonstrate the pervasive control voting system vendors have over election administration in almost every state and the consequences jurisdictions experience.

I am submitting my testimony to the New York State Senate Standing Committee on Elections, and Chairman Joseph Addabbo, in order to offer you a national perspective on the problems our states and counties have had when using optical scanners to count the votes on voter-marked paper ballots and the consequences they often experience when relying on private corporations for assistance in administering elections.

Attached are two reports: the first is a compilation of ballot-scanner problems extracted from the series of vendor-specific reports referenced above; the second (starting on page 65) is the last report referenced above.

My hope is that New York State will be able to use this information to learn from the experiences of other states and avoid the problems that plague other jurisdictions.

Thank you.



# Ballot-Scanner Voting System Failures in the News — A Partial List

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# Ballot-Scanner Voting System Failures in the News – A Partial List

## Executive Summary

Direct Recording Electronic (DRE) voting machines have been widely discredited throughout the United States and abroad. As a result, many U.S. jurisdictions are turning to ballot scanners (often called “optical scanners”) to tabulate votes marked on paper ballots. Florida and New Mexico have passed laws that ban the use of DREs, and other states are moving away from using DREs as well.

Data collected from over 1,000 news stories and voter hot line reports justifies this trend. The reports revealed over three times as many problems with DREs as with ballot scanners during the 2006 general election.<sup>1</sup> For each type of electronic machine, the following table shows the number of states that used the equipment in 2006, the number of problem reports, the number of states reporting problems, and the number of counties reporting problems.

Machine Type	# of States Where Used		Problems Reported		
	For Poll Sites	For Mail-in	# Reports	# States	# Counties
DREs	34	--	760	29	239
Ballot Scanners	38	50	209	24	79
Electronic Ballot Markers	29	--	57	14	22

While the trend toward ballot scanners has been motivated in large part by the unreliability of DREs and the inability to conduct meaningful audits of DRE results, there are risks associated with the use of ballot scanners also. It is not uncommon for scanner systems to malfunction during elections, causing confusion, counting delays, and even inaccurate results.

Despite historical evidence of scanner miscounts, results generated by ballot-scanner systems are rarely verified by a hand count unless the results appear implausible. Virtually all the miscounts described in this document (over 100) were detected by hand counting ballots when scanners produced implausible results. In some cases, erroneous results were certified because they appeared plausible and the error was discovered only after certification. Laws in some jurisdictions do not allow a timely and meaningful verification of the results. This means that inaccurate tallies may remain undetected, and outcomes that a hand count would have reversed may be certified.

The information in this document was compiled in order to inform election officials and the public of the types of malfunctions that occur in ballot-scanner voting systems. Armed with this knowledge, officials will be able to make more informed choices, as well as establish better procedures to prevent or mitigate the impact of scanner failures on elections held in their jurisdictions.

This document briefly describes 186 malfunctions of ballot-scanner systems reported in the news from 1998 through February of 2009 and tracked by VotersUnite.Org. The stories provide a representative sample of the types of malfunctions that occur, but they do not comprise a comprehensive report of voting system malfunctions, because:

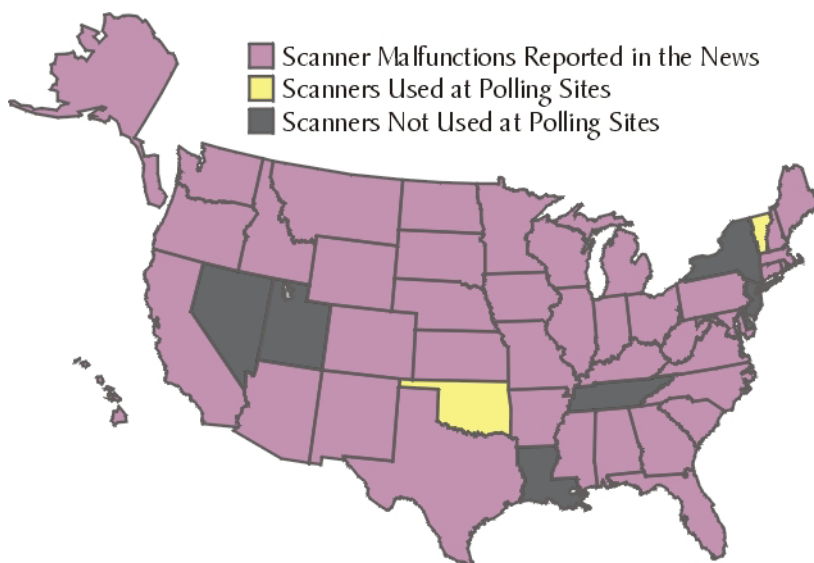
- ◆ We began tracking voting system malfunctions in 2003, so our data prior to that period is sparse.
- ◆ We know we did not encounter every news report of voting system malfunctions across the country.
- ◆ Reports gathered by election hotlines established in 2004, 2006, and 2008 reveal that the majority of malfunctions are not reported in the news.

<sup>1</sup> **E-Voting Failures in the 2006 Mid-Term Election.** January 2007. VotersUnite.Org, VoteTrustUSA, Voter Action, Pollworkers for Democracy. <http://www.votersunite.org/info/E-VotingIn2006Mid-Term.pdf>

## Ballot-Scanner Voting System Failures in the News – A Partial List

The malfunctions described in this document occurred in Washington, D.C. and 161 different counties in 41 states.

This illustration shows the states in which these malfunctions occurred. Only two of the nine states for which we have no problem reports use ballot scanners at the polls; the other seven use DREs or lever machines.



Ballot-scanner system malfunctions described in the following sections are grouped into six categories:

- ◆ Incorrect Tallies
- ◆ EMS (Election Management System) Miscounts and Other Failures
- ◆ Memory Card Malfunctions
- ◆ Mark-Detection Failures
- ◆ Misprinted Ballots
- ◆ Miscellaneous Operational Malfunctions

News stories that identify several different types of malfunctions have been placed into the category that is of most concern. For example, in Jackson County, Oregon, the news report said that scanners miscounted, jammed, and failed to read blue ink. Since miscounting is the most egregious of those problems, this item was placed in the category “Incorrect Tallies.”

## Ballot-Scanner Voting System Failures in the News – A Partial List

### Incorrect Tallies

This section describes 80 instances in which optical scanners reported inaccurate results. In many cases, incorrect ballot programming or mishandling of straight-party votes was the cause. In some cases, the scanners simply failed to detect votes or inexplicably added votes, and officials did not know the cause of the miscount. Sometimes a hand count reversed the outcome.

Date	Equipment	Place/Description
November 1998	Diebold AccuVote OS	<p><b>Pima County, Arizona.</b> For the third time in as many elections, Pima County, Arizona, found errors in the tally. The computers recorded no votes for 24 precincts in the 1998 general election, but voter rolls showed thousands had voted at those polling places. Pima was using Global Election Systems machines, which now are sold under the Diebold company name. <sup>2</sup></p>
November 2000	Diebold AccuVote OS	<p><b>Bernalillo County, New Mexico.</b> Election officials in the state’s most populous county found that a flaw in the ballot programming caused 67,000 absentee and early-voting ballots to be incorrectly counted following the Nov. 7 presidential election. <sup>3</sup></p> <p style="padding-left: 40px;">The tabulation system and software worked correctly, but a county technical employee failed to set up an element of the system properly, said Frank Kaplan, Global’s Western regional manager. New Mexico’s ballots are designed for voting by party, but voters can choose candidates from other parties. A programmer did not link the candidates’ names to their respective parties.</p> <p style="padding-left: 40px;">“The problem took 22 minutes for us to fix,” he said. “It was just a matter of clicking on the correct link.”</p>
November 2000	ES&S Optech Eagle Precinct Scanner	<p><b>San Francisco, California.</b> Huge discrepancies occurred between the number of ballots and the number of votes counted. In some precincts there were more votes counted than the number of ballots cast. In others there were more ballots than votes counted. <sup>4</sup></p> <p style="padding-left: 40px;">In polling place 2214 in the Western Addition, the city counted 416 ballots, but there were only 362 signatures in the roster, and the secretary of state found only 357 paper ballots.</p>

<sup>2</sup> **Computer fails to record 9,675 Pima County votes.** The Arizona Daily Star, 11 Nov. 1998. Referenced in *Black Box Voting*, by Bev Harris. Chapter 2. [http://www.blackboxvoting.org/bbv\\_chapter-2.pdf](http://www.blackboxvoting.org/bbv_chapter-2.pdf)

<sup>3</sup> **Human error is cause of N.M. election glitch.** Government Computer News; November 20, 2000; Vol. 19 No. 33, By Donna Young [http://www.gcn.com/vol19\\_no33/news/3307-1.html](http://www.gcn.com/vol19_no33/news/3307-1.html)

<sup>4</sup> **S.F. vote appears flawed but legal; Probe of 2000 election finds work was sloppy.** San Francisco Chronicle. February 11, 2002. By Erin McCormick, Chronicle Staff Writer. <http://www.sfgate.com/cgi-bin/article.cgi?file=/chronicle/archive/2002/02/11/MN209475.DTL>

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Date	Equipment	Place/Description
August 2002	ES&S Central Scanner	<p><b>Clay County, Kansas.</b> The machine showed that the challenger (Jennings) had won, but a hand recount showed that the incumbent commissioner (Mayo) won by a landslide – 540 votes to 175.</p> <p style="padding-left: 40px;">In one ward, which Mayo carried 242-78, the computer had mistakenly reversed the totals. <sup>5</sup></p> <p>This statement suggests that the computer in the “one ward” had the candidates mis-mapped to the table that holds the voting results.</p>
September 2002	ES&S Optical Scanner	<p><b>Union County, Florida.</b> Straight party votes were miscounted.<sup>6</sup></p> <p style="padding-left: 40px;">In Union County, Florida, a programming error caused machines to read 2,642 Democratic and Republican votes as entirely Republican in the September 2002 election. The vendor, ES&amp;S, accepted responsibility for the programming error and paid for a hand recount.</p>
November 2002	ES&S Optical Scanner	<p><b>Adams County, Nebraska.</b> During the general election, Adams County was the last in Nebraska to have election results, due to both machine and software malfunctions. ES&amp;S talked about some compensation for the election problems including paying for election worker overtime and not charging for <b>programming adjustments.</b> <sup>7</sup></p>
November 2002	ES&S Optech 3P Eagle	<p><b>Chatham County, North Carolina.</b> A ballot programming error caused Republican votes to go to the Libertarian candidate. <sup>8</sup></p> <p style="padding-left: 40px;">... every time voters marked a straight Republican ticket, Frederick C. Blackburn, the N.C. House 54 Libertarian candidate, got a vote because of a voting machine programming error.</p>
November 2002	Diebold AccuVote OS	<p><b>Robeson County, North Carolina.</b><sup>9</sup> Ballot tabulating machines failed to work properly in 31 of 41 precincts. Local election officials said the problem was the result of a software glitch, and ballots had to be recounted.</p> <p style="padding-left: 40px;">In a January 2004 interview with Dinah in the office of the Robeson County Director of Elections, she said that there had been a problem in the programming of the memory cards and all the ballots had been recounted by hand.</p>

<sup>5</sup> **Aug. 6 ballot problems alleged: Clay, Barton county candidates seek review of races.** Lawrence Journal-World. August 22, 2002. The Associated Press. <http://www.ljworld.com/section/election02/story/103526>

<sup>6</sup> **Black Box Voting** by Bev Harris, Chapter 2. [http://www.blackboxvoting.org/bbv\\_chapter-2.pdf](http://www.blackboxvoting.org/bbv_chapter-2.pdf)

<sup>7</sup> YorkNewsTimes.com, December 20, 2002; “Omaha election systems firm to pay for county election problems.” Referenced in *Black Box Voting*, by Bev Harris. Chapter 2.

<sup>8</sup> **Mechanic to smooth vote.** New Observer. October 15, 2004. By Jessica Rocha, Staff Writer. <http://newsobserver.com/news/story/1730333p-7996316c.html>

<sup>9</sup> **Voter turnout surprises officials.** Sun News. September 12, 2002. <http://www.myrtlebeachonline.com/mld/sunnews/news/local/4056664.htm>

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Date	Equipment	Place/Description
November 2002	ES&S Optical Scanner	<b>Sarpy County, Nebraska.</b> The optical scan machines failed to tally “yes” votes on the Gretna school-bond issue, giving the false impression that the measure failed miserably. The measure actually passed by a 2-1 margin. Responsibility for the errors was attributed to ES&S, which provided the ballots and the machines. <sup>10</sup>
November 2002	ES&S Optech 4C	<b>South Dakota.</b> When the optical scanner double counted votes, the error was blamed on a “flawed chip.” ES&S sent a replacement chip, and voters demanded that the original chip be impounded and examined. Only ES&S was allowed to examine the chip. <sup>11</sup>
November 2002	Sequoia Optech Scanner	<b>Taos County, New Mexico.</b> A ballot programming error caused the Sequoia Optech optical scanner to assign votes to the wrong candidates. Just 25 votes separated the candidates in one race; another race had a 79-vote margin. After noticing that the computer was counting votes under the wrong names, Taos County Clerk Jeannette Rael contacted the programmer of the optical machine and was told it was a programming error. <sup>12</sup>
November 2002	ES&S Optech 3P Eagle	<b>Wayne County, North Carolina.</b> A programming error caused the Optech Eagle optical scan machines to skip several thousand party-line votes, both Republican and Democrat. Correcting the error turned up 5,500 more votes and reversed the outcome for the House District 11 state representative race. <sup>13</sup>

<sup>10</sup> **Omaha World-Herald**, 6 November 2002; “A late night in Sarpy; glitches delay results”. Referenced in *Black Box Voting*, by Bev Harris. Chapter 2.  
[http://www.blackboxvoting.org/bbv\\_chapter-2.pdf](http://www.blackboxvoting.org/bbv_chapter-2.pdf)

<sup>11</sup> **NPR: Morning Edition**, 6 November 2002; “Analysis: Senate races in Minnesota and South Dakota” Referenced in *Black Box Voting* by Bev Harris, Chapter 2.

<sup>12</sup> 06/03/04. Conversation with a woman at the Elections Division of New Mexico. She told me Taos used the Sequoia Optech and confirmed that it was a programming error by the local programmer. New Mexico does not have their ballot programming done by the vendor. Original reference from *Black Box Voting*, Chapter 2. Albuquerque Journal, 7 November 2002; “Taos To Recount Absentee Ballots”

<sup>13</sup> “**Winners’ may be losers.**” The News and Observer; November 12, 2002; By Wade Rawlins and Rob Christensen. Reproduced at:  
<http://66.102.7.104/search?q=cache:iy0f4rgd7oMJ:www.ncdot.org/news/dailyclips/2002-11-12zz.html+%22%27Winners%27+may+be+losers%22+wayne&hl=en>

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Date	Equipment	Place/Description
April 2003	ES&S M100 Precinct Scanner	<p><b>Lake County, Illinois.</b> <sup>14</sup> Machines provided incorrect outcomes for 4 races in Lake County.</p> <p>The problem was caused by a programming error that failed to account for “no candidate” listings in some races on the ballot, Clerk Willard Helander said Thursday. As a result, election results were placed next to the names of the wrong candidates in four different races, including in Waukegan’s 9th Ward.</p> <p>Incorrect results also were tabulated in races for the Libertyville Community High School District 128 Board, the North Chicago Community Unit District 187 Board and the Foss Park District Board in North Chicago.</p> <p>The clerk’s office corrected the problem shortly after 10 p.m. on election night. But by then, many people who had kept track of the results on the clerk’s online Web site believed the unofficial results were complete.</p> <p>... Helander blamed the problem on Election Systems &amp; Software, the Omaha company in charge of operating the county’s optical-scan voting machines. She said a company official told her the programmers were unaware the county would have “no candidate” listings on its ballot.</p>
October 2003	Diebold AccuVote OS	<p><b>Alameda County, California.</b> Tally software suddenly began to malfunction during processing and began giving one candidate’s votes to a different candidate in the recall election.</p> <p>Poll workers in Alameda County noticed something strange on election night in October. As a computer counted absentee ballots in the recall race, workers were stunned to see a big surge in support for a fringe candidate named John Burton.</p> <p>Concerned that their new \$12.7 million Diebold electronic voting system had developed a glitch, election officials turned to a company representative who happened to be on hand.</p> <p>Lucky he was there. For an unknown reason, the computerized tally program had begun to award votes for Lt. Gov. Cruz Bustamante to Burton, a socialist from Southern California.</p> <p>...Alameda County officials still don’t know why the computer program failed on election night. In fact, they only discovered the malfunction because they could compare the paper absentee ballots the software was counting to the computer’s tally.<sup>15</sup></p>

<sup>14</sup> **Returns are in: Software goofed – Lake County tally misled 15 hopefuls.** Chicago Tribune; April 4, 2003; By Susan Kuczka, Tribune staff reporter reproduced at <http://www.vote.caltech.edu/mail-archives/votingtech/Apr-2003/0096.html>

<sup>15</sup> **Electronic voting’s hidden perils.** Mercury News. February 1, 2004. By Elise Ackerman. [http://www.mercurynews.com/mld/mercurynews/news/special\\_packages/election2004/7849090.htm](http://www.mercurynews.com/mld/mercurynews/news/special_packages/election2004/7849090.htm)



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Date	Equipment	Place/Description
March 2004	Diebold AccuVote OS	<p><b>Alameda County, California.</b> A bug in the software caused the machines to count absentee ballots inaccurately. The County must use a workaround.</p> <p>The problem resided with the (unique) internal precinct ID numbers exceeding the largest number that is possible to print on the optical scan ballot.</p> <p>... The high number of the database imports inadvertently caused the precinct ID number to exceed the largest number that it is possible to print correctly on the optical scan ballot.</p> <p>... For future elections, should a required change be found late in the database proofing process, DESI [Diebold] recommends the County not re-import their election set up file into the same database and instead build a new database.<sup>16</sup></p>
March 2004	ES&S Optical Scanner	<p><b>Lubbock County, Texas.</b><sup>17</sup> The machines failed to count the votes for the Precinct 8 Democratic chairman race. Dorothy Kennedy, Lubbock County elections administrator said they would need to recount all the ballots for all races in the county.</p> <p>She said Omaha, Neb.-based ES&amp;S, which prepared the vote tabulators, will foot the bill for the recount.</p>
March 2004	Diebold AccuVote OS	<p><b>San Diego County, California.</b> Out of 208,446 ballots, the machines miscounted 2,821 votes in the Democratic presidential race and the Republican U.S. Senate seat.<sup>18</sup></p> <p>Most of the absentee miscounts occurred in the Democratic presidential race, in which 2,747 votes cast for John Kerry were incorrectly credited to Rep. Dick Gephardt. In the Senate race, in which Bill Jones won, 68 votes cast for Barry L. Hatch were credited to candidate Tim Stoen, and six votes cast for James Stewart were credited to Stoen.<sup>19</sup></p> <p>The miscounts occurred because multiple scanners simultaneously fed the absentee ballot data into the computer tabulation system. The large number of ballots and candidates on them overwhelmed the system. ...</p> <p>“These performance failures are unacceptable,” [County Chief Administrative Officer Walt] Ekard wrote [to Diebold]. “Having a reliable and trouble-free voting system is absolutely essential to the county. Your failure to provide such a system in the March election was extremely troubling and any issues that remain must be fully resolved long before the November election.”</p>

<sup>16</sup> **Report of Assurances to Alameda County.** April 26, 2004. By Diebold Election Systems, Inc. Pages 2,3. [http://www.truevotemd.org/ebold\\_rpt\\_alameda.pdf](http://www.truevotemd.org/ebold_rpt_alameda.pdf)

<sup>17</sup> **Software blamed in Precinct 8 Democratic chair race mixup.** Lubbock online.com; March 11, 2004; By Brian Williams, Avalanche-Journal [http://www.lubbockonline.com/stories/031104/loc\\_031104030.shtml](http://www.lubbockonline.com/stories/031104/loc_031104030.shtml)

<sup>18</sup> **New electronic scanners miscounted some county votes.** NC Times April 7, 2004; By: Gig Conaughton - Staff Writer; [http://www.nctimes.com/articles/2004/04/08/news/top\\_stories/22\\_27\\_394\\_7\\_04.txt](http://www.nctimes.com/articles/2004/04/08/news/top_stories/22_27_394_7_04.txt)

<sup>19</sup> **Some votes miscounted in primary, officials say.** Union-Tribune. April 8, 2004. By Luis Monteagudo Jr. and Helen Gao, staff writers. <http://www.signonsandiego.com/news/politics/20040408-9999-1m8vote.html>

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Date	Equipment	Place/Description
May 2004	ES&S Optical Scanner (possibly M150)	<p><b>Craighead County, Arkansas.</b> The chip programmed by ES&amp;S for the county's optical scanner gave one candidate all the votes for constable. A manual recount revealed the error.<sup>20</sup></p> <p style="padding-left: 40px;">A recount was made in the District 13 constable race because returns from Precinct 20 showed one candidate received all 158 votes cast in the precinct, and the opposing candidate doubted that.</p> <p style="padding-left: 40px;">The incident was traced back to a computer chip coding error, and the result of the recount was that both candidates had received votes in the precinct.</p>
May 2004	ES&S Optical Scanner (possibly M150)	<p><b>Fulton County, Arkansas.</b> The chip programmed by ES&amp;S for the county's optical scanner didn't work. ES&amp;S claimed that the printer didn't send them all 16 ballots needed for the programming. The printer said he did send the entire set of ballots, and his records showed that the weight of the package mailed to ES&amp;S was the weight of 16 ballots.<sup>21</sup></p> <p style="padding-left: 40px;">Riverside Graphics printer Michael Eaton insisted his company sent ESS [sic] a full set of ballots. "We printed the ballots for Independence County where there are three times as many people and we didn't have any problems. We've had this problem with ESS before," said Eaton.</p> <p style="padding-left: 40px;">... He said Riverside Graphics checked its postage records, and the weight of the package sent to ESS was consistent with a package containing 16 ballots.</p>
May 2004	Diebold AccuVote OS	<p><b>Marblehead, Massachusetts.</b> Machine count showed 1834 to 1836. Manual recount showed 1831 to 1830, overturning the election outcome.<sup>22</sup></p> <p style="padding-left: 40px;">[Town Clerk Thomas] McNulty said new precinct totals would be available today. He said he was warned by the company that made the voting machines that, "When it's that close anything can happen."</p> <p style="padding-left: 40px;">(Final decision reached three weeks after the election, after a hand recount.)</p>
May 2004	ES&S M150 Scanner	<p><b>Sevier County, Arkansas.</b> The chip programmed by ES&amp;S for the county's optical scan counted all ballots as blank. The test ballots were printed correctly, and the pre-election testing was successful. But then the ballots for election day were printed in a different print run.<sup>23</sup></p> <p style="padding-left: 40px;">After consulting with officials from Election Systems &amp; Software, it was determined that the codes on the computer chip and the codes on the ballot didn't match.</p>

<sup>20</sup> **Commission OKs results of elections.** Jonesboro Sun, May 28, 2004. By LeAnn Askins. <http://www.jonesborosun.com/archivedstory.asp?ID=9486>

<sup>21</sup> **No explanation for ballot machine malfunction.** South Missourian; May 27, 2004; by George Jared, Staff Writer

<sup>22</sup> **Recount overturns result of Marblehead selectmen election.** The Daily Item; Wednesday, June 2, 2004; By Jack Butterworth. <http://www.thedailyitemoflynn.com/news/view.bg?articleid=6313>

<sup>23</sup> **Ballots counted by hand in primary elections.** The DeQueen Bee; May 24, 2004. [http://www.dequeen.com/news/comments.php?id=1188\\_0\\_1\\_0\\_C](http://www.dequeen.com/news/comments.php?id=1188_0_1_0_C)

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Date	Equipment	Place/Description
June 2004	Sequoia Insight Optical Scan	<p><b>Curry County, New Mexico.</b> The super-precinct feature, which totals the votes by Legislative district, gave incorrect totals.<sup>24</sup></p> <p>Chief Deputy Clerk Coni Jo Lyman said officials at Ink Impressions, the Rio Rancho-based company that provided the Insight machines, told her the machines were capable of counting both ways [by precinct and canvassed]. But when county personnel attempted to get the super-precinct totals from the machines, the numbers were wrong. Election workers wound up counting the vote by precinct, which took extra time and labor.</p>
June 2004	Sequoia Insight Optical Scan	<p><b>Dona Ana County, New Mexico.</b> Machines failed the pre-election testing and were used in early voting. In pre-election testing, counters that track the total number of ballots passed through the machine showed incorrect numbers. The counters in four out of five machines were incorrect, showing as many as 20 or 30 votes more than the actual number of ballots tested. Yet the machines were used in early-voting anyway.<sup>25</sup></p> <p>State Bureau of Elections computer specialist Steve Fresquez said Wednesday his director, Denise Lamb, briefed him on a problem with Insight machines before she went home for the day. “The machines have a protective counter that records all the votes cast on them. That counter was reading transactions incorrectly and advancing extra numbers,” he said.</p>
July 2004	Diebold AccuVote OS	<p><b>Putnam County, Georgia.</b><sup>26</sup> The optical scanner failed to read nine ballots.</p> <p>For Tuesday’s election, the absentee and early voter ballots were counted through the optical scan system the county has used for its past elections. This also delayed vote counting because there were nine ballots that the optical reading machine could not read.</p> <p>These had to be read and certified by an official ballot divining board made up of one Republican, one Democrat and one non-partisan.</p>

<sup>24</sup> **Company denies problem with voting program.** Clovis News Journal. June 3, 2004. By Jack King: CNJ Staff Writer  
<http://cnjonline.com/engine.pl?station=clovis&template=storyfull.html&id=6358>

<sup>25</sup> **Company denies problem with voting program.** Clovis News Journal. June 3, 2004. By Jack King: CNJ Staff Writer  
<http://cnjonline.com/engine.pl?station=clovis&template=storyfull.html&id=6358>

<sup>26</sup> **Putnam County voting officials report few glitches on election night.** The Union-Recorder. By Merritt Melancon. July 22, 2004.  
<http://www.unionrecorder.com/articles/2004/07/22/news/news04.txt>

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Date	Equipment	Place/Description
August 2004	ES&S Unity EMS	<p><b>Natrona County, Wyoming.</b> The Unity Election Management System, used to tally votes from both optical scan machines and paperless electronic voting machines, failed to tally votes correctly. <sup>27</sup></p> <p>Noticing that the totals for the city of Evansville seemed low, Natrona County Clerk Mary Ann Collins checked the printouts from the precinct voting machines in Evansville and found that the totals didn't match the totals computed by the Unity software, which combines all the totals countywide.</p> <p style="padding-left: 40px;">The error changes the order in which some candidates finished, but does not affect which candidates will advance to the general election. Only one candidate lost votes but five of the 10 municipal races in the county had changed totals.</p> <p style="padding-left: 40px;">... Collins determined the software problem only affected nonpartisan races after checking the voting machine printouts and the absentee votes against the Unity software report in several partisan races. There does not appear to be any pattern in the skewed vote totals.</p>
September 2004	Diebold AccuVote OS	<p><b>King County, Washington.</b> Although the optical scan software revisions intended to handle a new style of ballot were not qualified by an ITA, the state assigned provisional certification to the software after completing what the Secretary of State's office claimed was "extensive" testing. For example, in a letter to VotersUnite!, State Director of Elections Nick Handy defended the state testing process by stating that it included:</p> <p style="padding-left: 40px;">Functional tests of each system to ensure that the variety of ways that a voter might mark a primary consolidated ballot will be counted in accordance with the new Washington State law.</p> <p>However, the functional tests didn't catch a major software design error that caused the machines to reject valid ballots. Precinct scanners rejected ballots with no party choice selected, even if the voter intended not to vote in partisan races. <sup>28</sup></p> <p style="padding-left: 40px;">Among the disgruntled in King County was attorney Rhys Sterling, who learned the ballot box wouldn't accept his ballot because he voted only on nonpartisan races and issues.</p> <p style="padding-left: 40px;">After the machine returned his ballot, a poll supervisor at Hobart Community Church asked whether he had chosen a political party (he had not) and whether he had deliberately not chosen a party. His ballot was accepted only after the supervisor opened the machine and pressed a button overriding its programming. "So much for secret ballots," said Sterling, who claims that yesterday's voting procedures violate the state constitution's guarantee of "absolute secrecy" in preparing and depositing ballots.</p>

<sup>27</sup> **Clerk changes election vote totals.** August 21, 2004. By Matthew Van Dusen, Star-Tribune staff writer.  
<http://www.casperstartribune.net/articles/2004/08/21/news/casper/6c2e825b3f9e154187256ef70007adbb.txt>

<sup>28</sup> **Nonpartisan voters baffle ballot machines.** Seattle Times. September 15, 2004. By Keith Ervin, Seattle Times staff reporter.  
[http://seattletimes.nwsourc.com/html/localnews/2002036002\\_primary15m.html](http://seattletimes.nwsourc.com/html/localnews/2002036002_primary15m.html)

## Ballot-Scanner Voting System Failures in the News – A Partial List

Date	Equipment	Place/Description
September 2004	ES&S Optech 4-C	<p><b>Maricopa County, Arizona.</b> The original totals for State Representative in District 20 showed Anton Orlich in the lead over John McComish by four votes, and the close margin required a recount. The optical scan recount found nearly 500 additional votes for the five candidates in the race and changed the outcome, giving McComish the lead by 13 points.</p> <p>The election was certified by Judge Eddward P. Ballinger Jr. <sup>29</sup></p> <p>An attorney for Anton Orlich, the third-place finisher, argued that ballots were mishandled, a tabulation machine malfunctioned and because of these reputed errors, voter intent was not preserved in the recount. Though Lisa Hauser asserted that the county Elections Department violated statutes by excessively handling and improperly storing the 25,000 District 20 ballots, the clearest error was with the machines.</p> <p>“The recount can’t be trusted because of this anomaly,” Hauser said. “Voters can’t trust it. Voters of District 20 can’t trust it. I don’t believe this court should trust it.”</p> <p>...All early ballots were read by the machines during the primary and on the day of the recount. However, <b>one machine registered an 18 percent variance in reading undervotes</b>, Hauser said.<sup>30</sup></p>
November 2004	Hart InterCivic Ballot Now	<p><b>Boulder County, Colorado.</b> Bar codes on the ballots were the wrong size, causing the system not to count the ballots. EagleDirect, the printer, accepted some of the responsibility, but also said that Hart had not informed them of the close tolerances required when printing.<sup>31</sup></p> <p>Eagle CEO Bill Schaefer demonstrated one test ballot that, after being scanned once, was found to have one “damaged race” where the system could not process information for an individual race. The second time through, the system found more damaged races on the same ballot and read another race as an “undervote.” The third test read everything on the front page of the ballot properly but one race was rejected on the back page.</p> <p>... [Eagle president Howard] Harris said Hart did not inform Eagle about certain system tolerances until after the election. He said the system would reject races when the boxes on the paper ballot were not within plus-or-minus 20 percent of their expected position.</p> <p>He also said a Hart official told him the system could have worked using 30 percent tolerances, and Harris said he felt loosening the tolerance could have prevented occurrence of many of the damaged races.</p>

<sup>29</sup> **McComish GOP winner in District 20 by 13 votes, recount shows.** The Arizona Republic. September 21, 2004. <http://www.azcentral.com/community/ahwatukee/articles/0921district20-recount-ON.html>

<sup>30</sup> **McComish’s District 20 2nd-place finish confirmed.** The Arizona Republic. September 24, 2004. Nedra Lindsey. <http://www.azcentral.com/news/election/legislature/articles/0924recount.html>

<sup>31</sup> **Printer played role in Boulder voting woes.** Rocky Mountain News. November 10, 2004. By Berny Morson. [http://rockymountainnews.com/drmn/election/article/0,1299,DRMN\\_36\\_3317633,00.html](http://rockymountainnews.com/drmn/election/article/0,1299,DRMN_36_3317633,00.html). Archive:<http://www.votersunite.org/article.asp?id=3770>  
**Printer says ballots bear partial blame: Maintains most of fault lies with the new voting system.** Boulder Daily Camera. January 29, 2005. By Eric Bontrager.

## Ballot-Scanner Voting System Failures in the News – A Partial List

Date	Equipment	Place/Description
November 2004	ES&S Unity EMS (2.2)	<p><b>Broward County, Florida.</b> A software flaw cause Broward County officials to initially report an inaccurate outcome for Amendment 4.<sup>32</sup></p> <p>Amendment 4, which would allow Miami-Dade and Broward counties to hold a future election to decide if slot machines should be allowed at racetracks, was thought to be tied. But now that a computer glitch for machines counting absentee ballots has been exposed, it turns out the amendment passed.</p> <p>“The software is not geared to count more than 32,000 votes in a precinct. So what happens when it gets to 32,000 is the software starts counting backward,” said Broward County Mayor Ilene Lieberman.</p> <p>That means that Amendment 4 passed in Broward County by more than 240,000 votes rather than the 166,000-vote margin reported Wednesday night.</p>
November 2004	ES&S Optical Scanner	<p><b>Brown County, Indiana.</b> The tally tape produced by the scanner in one precinct showed 63 unvoted ballots. The county considered recounting votes in that precinct, but were unable to.<sup>33</sup></p> <p>“We were concerned about the machine or the pens that were used to mark the ballot,” Clerk Benita Fox said. “We’ve never had that many unvoted ballots before. The law doesn’t allow the election board to reject certification by the precinct board, so we didn’t do anything. We will be looking at that problem in the future.”</p>
November 2004	ES&S M115 Optical Scanner	<p><b>Carroll County, Arkansas.</b> A mis-programmed chip from ES&amp;S skewed the results from the JP District 2 race.<sup>34</sup></p> <p>The glitch was discovered by Carroll County Election Commission members when they met to certify election results Monday at the Berryville courthouse. It is believed that the programming alignment was out of kilter, as provided by Election Systems and Software, the company that programs computer chips to read the local ballots.</p> <p>As a result, ballots for the JP District 2 race will either be hand counted, or re-run through the optical scanner machine once the correct computer chip is provided.</p>

[http://www.dailycamera.com/bdc/county\\_news/article/0,1713,BDC\\_2423\\_3507736,00.html](http://www.dailycamera.com/bdc/county_news/article/0,1713,BDC_2423_3507736,00.html). Archive: <http://www.votersunite.org/article.asp?id=4740>  
**EagleDirect speaks.** Colorado Daily. January 31, 2005. By Richard Valenty. Archive: <http://www.votersunite.org/article.asp?id=4748>

<sup>32</sup> **Broward Vote-Counting Blunder Changes Amendment Result.** News4Jax.com. November 4, 2004. <http://www.news4jax.com/politics/3890292/detail.html>  
 Archive: <http://www.votersunite.org/article.asp?id=3696>

**Gambling vote glitch mars tally.** Miami Herald. November 5, 2004. By Erika Bolstad And Curtis Morgan.  
<http://www.miami.com/mld/miamiherald/10103931.htm>

<sup>33</sup> **3 more counties report errors.** Palladium Item. November 16, 2004. by Pam Tharp. Archive: <http://www.votersunite.org/article.asp?id=3862>

<sup>34</sup> **Computer glitch blamed for miscount in JP voting.** Carroll County Star Tribune. November 10, 1004. By Anna Mathews.  
 Archive: <http://www.votersunite.org/article.asp?id=3889>

## Ballot-Scanner Voting System Failures in the News – A Partial List

Date	Equipment	Place/Description
November 2004	ES&S Optical Scanner	<p><b>Carroll County, Indiana.</b> The county had to hand count county council votes in its 19 precincts on election day because the software doesn't comply with state law.<sup>35</sup></p> <p>If a voter votes a straight Democratic ticket but picks one Republican in the at-large race, no votes count for the Democratic candidates. Only the Republican vote is counted.</p> <p>Carroll County had one Democratic candidate and two Republican candidates for county council, Sterrett said. A voter who marked a straight Democratic ticket but then voted for the two Republicans should have lost the vote for the Democratic council candidate, but ES&amp;S's program would have counted all three votes, Sterrett said.</p>
November 2004	ES&S EMS	<p><b>Collier County, Florida.</b> The ES&amp;S tabulation software on the central computer added test votes to the real votes.<sup>36</sup></p> <p>[Gary Beauchamp, deputy assistant supervisor of elections] said that while elections officials fixed the glitch they are still awaiting word from ES&amp;S about what caused it so they can work on a plan to avoid a similar problem in future elections.</p>
November 2004	Diebold Central Count OS	<p><b>Crittenden County, Arkansas.</b> More than 11% of the ballots failed to register a vote for president.<sup>37</sup></p> <p>1,853 of the county's 17,284 voters had selected more than one presidential candidate. Another 131 ballots were counted as having no checkmarks for president.</p> <p>About one in every eight ballots cast in Crittenden County failed to register a choice for president.</p> <p>Unusual ballot design elements and ballot programming errors may have contributed to the problems, but Secretary of State Charlie Daniels refused to allow a manual recount of the ballots.</p>
November 2004	ES&S M100 Optical Scanner	<p><b>Flathead County, Montana.</b> Errors were detected in the optical scan tabulation system.<sup>38</sup></p> <p>[T]wo precincts in, both showing an odd coincidence, no opposition to I-147 [which would reverse the ban on using cyanide in mining]. Next precinct scanned, same result. Then it got worse. New returns show a precinct voted well beyond the number of registered voters.</p> <p>"This is only our second election on this system. We're still learning the in's and out's of it, and with this volume of voting, we're just taking a few nicks," [Diane Murer, Flathead County Elections Office] explained.</p>

<sup>35</sup> **3 more counties report errors.** Palladium Item. November 16, 2004. by Pam Tharp. Archive: <http://www.votersunite.org/article.asp?id=3862>

<sup>36</sup> **Software glitch blamed for delay in election results.** Naples Daily News. November 4, 2004. By Cathy Zollo. Archive: <http://www.votersunite.org/article.asp?id=3879>

<sup>37</sup> **Election study finds widespread ballot-counting problems.** Scripps Howard News Service. December 20, 2004. By THOMAS HARGROVE. <http://www.knoxstudio.com/shns/story.cfm?pk=MISCOUNT-ELECT-12-20-04&cat=AN>

<sup>38</sup> **Flathead Recount.** KECI13 News. November 3, 2004. Archive: <http://www.votersunite.org/article.asp?id=3994>

## Ballot-Scanner Voting System Failures in the News – A Partial List

Date	Equipment	Place/Description
November 2004	Diebold Optical Scanner	<p><b>Franklin County, Indiana.</b> Tests conducted on the optical scanner before the election found no problems. Yet during the election, it gave straight-party Democrat votes to Libertarians, affecting the outcome of the county commissioners' race.<sup>39</sup></p> <p style="padding-left: 40px;">When votes in southeastern Indiana's Franklin County were recounted by hand Thursday night, Democrat Carroll Lanning leaped from fifth to third in the three-seat commissioners race and Republican Roy Hall fell to fifth.</p> <p>The vendor, Fidler, admitted they were to blame for the programming error.<sup>40</sup></p>
November 2004	ES&S Optical Scanner	<p><b>Lancaster County, Nebraska.</b> As the optical scanners read the election-day ballots, occasionally, they added votes. While County Election Commissioner David Shively explained that the software was reading ballots twice, ES&amp;S referred to the misread as a mechanical problem.<sup>41</sup></p> <p style="padding-left: 40px;">The problem, described by Shively: While machines correctly fed themselves just one ballot at a time, their software at times incorrectly detected two ballots. The machines in all cases stopped short of actually counting two ballots, Shively said, and instead responded by shutting down.</p> <p style="padding-left: 40px;">... Shively said it became clear after 2 p.m. Tuesday that problems existed. At that time, officials began testing the six machines – four for election-day ballots, two on loan from Election Systems &amp; Software to count absentee ballots – and found that two were not correctly matching results.</p> <p style="padding-left: 40px;">That came as a surprise, Shively said, because all were tested late last week and performed well.</p> <p>After consulting with ES&amp;S, Shively decided to use the two absentee-ballot machines to speed up the election-day counting. But the problem was apparently contagious.</p> <p style="padding-left: 40px;">From about 10:30 p.m. to 12:30 a.m., the machines were purring along glitch-free, Shively said. "I thought, 'Boy, we're back in business,'" Shively said.</p> <p><b>Then the two-ballot problem described by Shively began, plaguing almost all the machines,</b> drastically slowing the count.</p>

<sup>39</sup> **Recount changes one Franklin Co. race.** IndyStar.com. November 12, 2004. Associated Press. Archive: <http://www.votersunite.org/article.asp?id=3804>

<sup>40</sup> **Fidler admits election blip.** Quad City Times. November 13, 2004. By Tory Brecht. Archive: <http://www.votersunite.org/article.asp?id=3816>

<sup>41</sup> **Problem machines spur call for recount.** Lincoln Journal Star. November 3, 2004. By Nate Jenkins. <http://www.journalstar.com/articles/2004/11/14/election/doc4189b9c7f14bf764391458.txt>. Archive: <http://www.votersunite.org/article.asp?id=3846>



## Ballot-Scanner Voting System Failures in the News – A Partial List

Date	Equipment	Place/Description
November 2004	ES&S M150 Scanner	<p><b>Pike County, Arkansas.</b> A damaged optical scanning machine lost nearly 700 votes. <sup>42</sup></p> <p>“I’m so upset over this that I can’t sleep,” said Sandy Campbell, clerk of Pike County, Ark. ... “We had no idea this had happened. But I’ll know what to look for in the future. We’ll try never to let this happen again.”</p> <p>“We sent a technician to Pike County to check,” said Meghan McCormick, spokeswoman for Omaha-based Election Systems and Software Inc., which manufactured Pike County’s optical scan machine. “There was a scratch on Sensor ‘A’ that has already been repaired. The scratch probably occurred during the election, but we’ll never be certain.”</p>
November 2004	ES&S Central Scanner	<p><b>Sandusky County, Ohio.</b> An election turnout of 131% tipped off the election officials that the optical scanners had been adding phantom votes to the totals. Officials concluded that ballots had been counted twice and speculated that some ballots in nine precincts had been fed through machine more than once.<sup>43</sup></p> <p>Barb Tuckerman, director of the Sandusky County Board of Elections, said when she reviewed election information Nov. 8 she discovered the mistake.</p> <p>“Clyde had 131 percent voting,” Tuckerman said. “That’s not possible. I knew there was something amiss.”</p>
November 2004	ES&S Optical Scanner	<p><b>Sarpy County, Nebraska.</b> Election officials ended up with around 10,000 phantom votes (more votes than voters). They still don’t know what went wrong. <sup>44</sup></p> <p>Johnny Boykin lost his bid to be on the Papillion City Council. The difference between victory and defeat in the race was 127 votes. Boykin says, “When I went in to work the next day and saw that 3,342 people had shown up to vote in our ward, I thought something’s not right.”</p> <p>He’s right. There are not even 3,000 people registered to vote in his ward.</p> <p>For some reason, some votes were counted twice.</p> <p>Deputy Sarpy County Election Commissioner Ed Gilbert says, “It affected 32 of the 80 precincts. And I suppose as many as 10,000 votes.”</p> <p>... No one is sure exactly what went wrong.</p> <p>VotersUnite contacted the Sarpy County Elections office and was told that ES&amp;S had analyzed the problem and determined it to be “mechanical and procedural.” That was all the election staff knew.</p>

<sup>42</sup> **Election study finds widespread ballot-counting problems.** Scripps Howard News Service. December 20, 2004. By Thomas Hargrove.

<http://www.knoxstudio.com/shns/story.cfm?pk=MISCOUNT-ELECT-12-20-04&cat=AN>. Archive: <http://www.votersunite.org/article.asp?id=4362>

<sup>43</sup> **Some ballots counted twice: Discovery raises further doubt about close treasurer race.** The News-Messenger. November 16, 2004. By LaRaye Brown, staff writer. <http://www.thenews-messenger.com/news/stories/20041116/localnews/1601347.html>. Archive: <http://www.votersunite.org/article.asp?id=3866>

<sup>44</sup> **Countinghouse Blues: Too many votes.** WOWT Omaha. November 5, 2004. <http://www.wowt.com/news/headlines/1161971.html>

## Ballot-Scanner Voting System Failures in the News – A Partial List

Date	Equipment	Place/Description
November 2004	ES&S Optical Scanner & EMS	<p><b>Wichita County, Texas.</b> Optical scanners were unable to produce a reliable count of Tuesday’s election ballots.<sup>45</sup></p> <p>More than 6,900 of about 26,000 ballots - mostly early votes - did not record votes for president with 10 of 52 precincts reporting. Similar problems were noted on all other races.</p> <p>Election officials believe machines are counting votes correctly but that computer programs that process results are malfunctioning.</p> <p>No one knows what the problem is, Republican County Chairman Carolyn Nicholas said.</p>
November 2004	Hart InterCivic Ballot Now	<p><b>Yakima County, Washington.</b> When the votes for Governor were recounted manually, it was discovered that the Ballot Now system had failed to read the votes on 24 scanned ballots. A white line extending the length of the page had caused the ballots to be treated as “damaged.” The administrator had turned on the “autoresolve” feature, and the Ballot Now system misread the voters’ intents.<sup>46</sup></p> <p><b>June 2005 update:</b> Travis Harrell, a manager at Hart InterCivic, reported the results of an investigation his company had been carrying out.<sup>47</sup></p> <ol style="list-style-type: none"> <li>1. The scanned ballot images of the 24 ballots in question (Batch 86, Pct 3301) all contain a white vertical line spanning the entire length of the ballot. The line runs directly through the left portion of all option boxes in the 4th column of each ballot. The line was most likely caused by a small foreign object (dirt or paper debris) in the scanner that subsequently dislodged.</li> <li>2. Since the white line “whited out” a portion of each option box, Ballot Now was unable to detect at least 90 percent of each “target box” and therefore classified each contest in the 4th column of each ballot as a Damaged Contest.</li> </ol> <p><b>October 2005 update:</b> the User’s Guide for the Kodak scanner points out that a white vertical line on the image can be caused by a dirty imaging guide. The manual recommends that the imaging guide – and other internal part of the scanner – be cleaned after eight hours of use.</p>

<sup>45</sup> **Waiting in Wichita; Count could resume today.** Times Record News. November 4, 2004. By Robert Morgan. Archive: <http://www.votersunite.org/article.asp?id=3690>

<sup>46</sup> **Errors in Skagit vote count point to statewide problem.** Skagit Valley News. December 3, 2004. By James Geluso. Archive: <http://www.votersunite.org/article.asp?id=4068>

**Hart InterCivic Optical-Scan Has A Weak Spot.** July 5, 2005. by John Gideon. <http://www.votersunite.org/info/yakimaproblemreport.asp>

<sup>47</sup> Email from Mr. Harrell to Diana Soules, Yakima County Election Manager. <http://www.votersunite.org/info/Yakimaproblemreportemail.pdf>

## Ballot-Scanner Voting System Failures in the News – A Partial List

Date	Equipment	Place/Description
December 2004	ES&S M650 Central Scanner	<p><b>Skagit County, Washington.</b> An investigation of anomalies in the recount of the governor’s race led county officials to learn from ES&amp;S that a vote is counted incorrectly in approximately 1 in 10,000 ovals read by their high-speed optical scanner. Since the governor’s race had four options, the estimate is that 1 in 2500 votes was counted incorrectly.<sup>48</sup></p> <p>The machines used by Skagit County to tally votes made at least 36 mistakes in the count for the governor’s race, which was decided by just 42 votes statewide. ...</p> <p>In Skagit County, errors occurred when the machines either counted a ballot twice in the first count, or missed counting a ballot in the second count, said Skagit County Elections Supervisor Erika Kubischta.</p>
March 2005	ES&S Optical Scanner	<p><b>Taylor County, Wisconsin.</b> Four and a half months after the election, a consulting firm discovered that ES&amp;S had programmed the optical scanners incorrectly, failing to account for partisan elections. The inaccurate programming caused all straight-party votes in Medford to be lost, affecting approximately 27% of the ballots.<sup>49</sup></p> <p>That failure meant that the votes of everyone who voted straight ticket - anyone who voted only for candidates of a single party - were not counted. In all, about 600 of 2,256 ballots cast were not counted, [Taylor County Clerk Bruce] Strama said.</p> <p>“There’s really nothing voters can do at this point,” said Kevin Kennedy, the executive secretary of the State Elections Board.</p> <p>ES&amp;S acknowledged that it was to blame for the error that escaped notice until it was caught by an independent firm.</p> <p>Medford and Taylor County officials have been told by Nebraska-based Election Systems &amp; Software that the city will be reimbursed for the costs of setting up the vote-counting machine in the fall because the program was faulty. A spokeswoman said the company takes full responsibility for the error.</p>

<sup>48</sup> **Errors in Skagit vote count point to statewide problem.** Skagit Valley News. December 3, 2004. By James Geluso.

Archive: <http://www.votersunite.org/article.asp?id=4068>

<sup>49</sup> **About 600 Medford ballots cast in November ignored.** Mar 12, 2005. Marshfield News-Herald.

<http://www.wisinfo.com/newsherald/mnhlocal/284049485656926.shtml>. Archive: <http://www.votersunite.org/article.asp?id=5061>

## Ballot-Scanner Voting System Failures in the News – A Partial List

Date	Equipment	Place/Description
May 2005	ES&S Optical Scanner	<p><b>Forrest County, Mississippi.</b> The number of ballots counted by the optical scanner didn't match the number of votes reported by the computer.<sup>50</sup></p> <p>There were also some discrepancies in the Ward 4 Republican race between Andrew Ellard, Lloyd B. "Rink" Russell and Brian Lucas.</p> <p>The problem?</p> <p>ES&amp;S, the Omaha, Neb.-based company that is leasing voting equipment to the city for the primary, runoff and general elections, sent the wrong type of counter to Hattiesburg.</p> <p>The <i>right</i> type of counter - an infrared machine instead of a visible light machine - arrived Thursday night.</p> <p>Note from VotersUnite: The industry is moving toward visible light scanners because they read the ballot marks more reliably than infrared scanners. This article leaves many unanswered questions.</p>
October 2005	Hart InterCivic Ballot Now	<p><b>Boulder County, Colorado.</b> The optical scan system, designed specifically for absentee ballots, misread seven out of 429 folded test ballots.<sup>51</sup></p> <p>Despite assurances that Boulder County's \$1.4 million ballot-counting system would operate smoothly in the upcoming election, the equipment will not be trusted to properly read ballots where a fold passes through a ballot item, elections officials said Friday.</p> <p>Election workers discovered the glitch Thursday while running 429 ballots through Hart InterCivic scanners during a test, elections coordinator Josh Liss said Friday.</p> <p>"Depending on how the ballot is folded, if the fold crosses an option box, it's possible the machine could misread it," he said.</p> <p>One Boulder County citizen pointed out the irony in the flawed design.</p> <p>Voting activist Joe Pezzillo, who fought the county's purchase of the Hart equipment and supported scrapping it after last year's rocky election, said he is disappointed that a system that is supposedly ideal for mail-ballot elections cannot read ballots that are folded and mailed.</p> <p>"This is what it's good at. This is the kind of functionality we get when it's working at its best," he cracked.</p> <p>"This is the type of foible people encounter when they don't know how to analyze a voting system for purchase."</p>

<sup>50</sup> **Problems delay final vote count.** Hattiesburg American.com. May 7, 2005.

<http://www.hattiesburgamerican.com/apps/pbcs.dll/article?AID=/20050507/OPINION01/505070323/1014/NEWS01>

<sup>51</sup> **County voting faces more woes. Equipment has trouble reading folded ballots.** Longmont FYI . October 8, 2005. By Brad Turner, The Daily Times-Call.

<http://www.longmontfyi.com/Local-Story.asp?id=4040>

## Ballot-Scanner Voting System Failures in the News – A Partial List

Date	Equipment	Place/Description
November 2005	ES&S optical Scanner	<p><b>Cumberland County, Pennsylvania.</b> Flawed ballot programming of straight-ticket votes hands the race to the wrong candidate for magisterial district judge. Straight-ticket Democrat votes were given to the Republican candidate. Straight-ticket Republican votes were not counted at all.<sup>52</sup></p> <p>A 9.5-hour hand recount produced a new winner Thursday in the election for magisterial district judge for the Carlisle area.</p> <p>[A] programming error by the county’s ES&amp;S voting machines awarded all votes by Democrats casting a straight-ticket ballot to Keating. The problem involved a software coding error in which Keating’s political affiliation was mislabeled as Democrat.</p> <p>Straight-ticket Republican votes were not awarded to either candidate. So the hand recount subtracted straight-ticket Democrat votes from Keating’s total and added straight-ticket Republican votes. Meanwhile, Rhoades gained straight-ticket Democrat votes.</p>
November 2005	[Not known]	<p><b>Somerset County, Pennsylvania.</b> Scanners rejected valid ballots.<sup>53</sup></p> <p>[O]fficials said every ballot without votes on the separate retention ballot was kicked out of the system, slowing the count considerably.</p> <p>“It was very frustrating,” [County Commissioner Jimmy] Marker said. “It was also frustrating for the two people working the machines who had been standing for six hours without a break and with a stack of ballots a mile high.”</p>

<sup>52</sup> **DJ race still up in the air.** Sentinel, November 11, 2005. By John Hilton. <http://www.cumberlink.com/articles/2005/11/11/news/news02.txt>  
 Archive: <http://www.votersunite.org/article.asp?id=6323>

<sup>53</sup> **Machines delay ballot counting.** The Tribune-Democrat. November, 9 2005. By Kirk Swauger. [http://www.tribune-democrat.com/local/local\\_story\\_313232449.html?keyword=secondarystory](http://www.tribune-democrat.com/local/local_story_313232449.html?keyword=secondarystory). Archive: <http://www.votersunite.org/article.asp?id=6299>

## Ballot-Scanner Voting System Failures in the News – A Partial List

Date	Equipment	Place/Description
March 2006	Diebold AccuVote OS	<p><b>Grafton, New Hampshire.</b> Two vote tabulators were seized by the state’s Attorney General after malfunctioning during elections held on March 14.<sup>54</sup></p> <p>No matter how you do the math, 193 “yeas” plus 198 “nays” don’t add up to 369 votes. That faulty equation – results of a warrant article vote from Tuesday’s election ballot – was the first clue for Grafton town officials that something was wrong.</p> <p>.... The margin of error could end up changing the outcome of two important warrant articles, [Town Clerk Mary] McDow said – one for a new police cruiser and the other for a compactor for the town’s recycling center.</p> <p>Officials speculate that a dip switch on the machine was set incorrectly.</p> <p>However, [Grafton Selectman Jennie] Joyce said she is in favor of recounting ballots, both by hand and by machine.</p> <p>“It’s not be such a bad idea, just to test the accuracy of the machine,” Joyce said.</p>
March 2006	ES&S Optical AIS 315	<p><b>Webb County, Texas.</b> ES&amp;S blamed by county for errors in programming and inadequately training county staff.<sup>55</sup></p> <p>The company prepared all software for the election. Additional problems cited include delays of three days before receiving coding for electronic ballots, following mistakes involving receipt of nearby McMullen County codes,</p>

<sup>54</sup> **Voting machines removed from Grafton.** Union Leader, March 16, 2006 by Carol Robidoux.

Story archived at <http://www.votersunite.org/article.asp?id=6557>

<sup>55</sup> **Election Uproar; County officials say there were plenty of red flags** Laredo Morning Times, March 14, 2006 by Julie Daffern. Story archived at

[http://www.zwire.com/site/index.cfm?newsid=16299334&BRD=2290&PAG=461&dept\\_id=473478&rfti=8](http://www.zwire.com/site/index.cfm?newsid=16299334&BRD=2290&PAG=461&dept_id=473478&rfti=8)

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Date	Equipment	Place/Description
May 2006	Diebold AccuVote OS	<p><b>Barry County, Michigan.</b> Optical scanners “scramble” results. Officials have to do the count by hand.<sup>56</sup></p> <p>Hastings city clerk Tom Emery did a double take.</p> <p>“In the first precinct that we looked at, one candidate got zero votes, but there were 90 write-ins out of 125 votes cast,” he said. “Especially since the person who got zero votes was the person that I voted for, so I knew the zero was wrong.”</p> <p>In the Thornapple school board race, the computer had both candidates with zero votes, but the write-in total was 35. The biggest problem, said Barry County clerk Debbie Smith, was for races dealing with bond proposals.</p> <p>“All of the printouts where there were any bond proposals showed a zero total for a yes vote,” she said, “and it appears the actual votes cast as yes showed under the no total and the no total wasn’t appearing on the tape anywhere.”</p> <p>The cause?</p> <p>“It would all be speculation at this point,” Smith said, “whether the problem was with the actual ballot printing or with the memory card programming.”</p>
May 2006	ES&S Optical Scanner	<p><b>Cleburne County, Arkansas.</b> ES&amp;S mis-programs ballot scanners.<sup>57</sup> Cleburne County cannot report results due to scanner malfunctions. The county plans to conduct a hand count of the ballots.</p>
May 2006	Diebold AccuVote OS	<p><b>Cuyahoga County, Ohio.</b> Optical scanners fail to tabulate properly.</p> <p>With all the problems reported at the polls Tuesday, NewsChannel5 has learned that the absentee results will be delayed. About 17,000 absentee votes will have to be hand counted because of a problem with optical scanners.</p> <p>David Bear, spokesman for Diebold Inc., which supplies Cuyahoga’s machines, said the absentee counting problem appears to be isolated. The ovals on the ballots printed by the county did not line up properly for optical scan machines to count them, he said.<sup>58</sup></p>

<sup>56</sup> **Glitch hits Barry County voting machines** WoodTV8, May 3, 2006 by Dan Bewley. Story is archived at <http://www.woodtv.com/Global/story.asp?S=4855576&nav=0Rce>

<sup>57</sup> **Voting machine problems** KARK4, May 23, 2006 (no byline). <http://www.kark.com/news/default.asp?mode=shownews&id=6421>

<sup>58</sup> **Confusion, delayed results mark first punch-card free election** The News Sentinel, May 3, 2006 by Matt Leingang. Story is archived at <http://www.fortwayne.com/mld/newssentinel/14484080.htm>

## Ballot-Scanner Voting System Failures in the News – A Partial List

Date	Equipment	Place/Description
May 2006	ES&S Optical Scanner	<p><b>Luzerne County, Pennsylvania.</b> Unofficial tallies differ by nearly 6,000 votes from official ballot counts. Candidates are considering calling for recounts.<sup>59</sup></p> <p>Officials say extra votes were counted because of tabulation errors, and some candidates' vote totals are hundreds of votes less than totals from the unofficial count, which was conducted after the polls closed on election night, May 16.</p> <p>The tabulations errors in Luzerne County came about because the election machine vender, Nebraska-based Election Systems &amp; Software, didn't reset a counter on a machine that scanned paper ballots, officials said.</p>
May 2006	ES&S Optical Scanner	<p><b>Phillips County, Arkansas.</b> Tabulators, with flawed ballot programming furnished by ES&amp;S, mistook 432 Democratic votes for Republican and fail to count them in the Democratic primary.<sup>60</sup></p> <p>Several days after the Election Commission certified that race and Crumbly and Willis began campaigning for the June 13 runoff, commission staff discovered that 432 votes cast at Allen Temple in Phillips County had mistakenly been counted as Republican ballots, effectively nullifying them.</p> <p>The malfunctioning ballot tabulating machine was programmed by Election Systems &amp; Software, the Omaha, Neb.-based company that in November signed a \$ 15 million contract to provide election equipment to Arkansas counties.</p> <p>Ballot programming problems in Phillips County also affected the House District 41 contest.<sup>61</sup></p>
June 2006	ES&S M100 Optical Scanner	<p><b>Pottawattamie County, Iowa.</b> Flawed ballot programming by ES&amp;S reported results of all nine contested primary races incorrectly.<sup>62</sup></p> <p>Pottawattamie County elections deputy Gary Herman said anomalies were noticed almost immediately. Electronic results were posted, but with a disclaimer that ballots would be hand-counted the next day.</p> <p>The results were dramatic. <b>Every winner in Pottawattamie County's nine contested races turned out, in retrospect, to be a loser.</b> Initial returns that showed incumbent Recorder John Sciortino losing by a margin of 1,245 votes to 1,167 was found to have actually won the election 2,061 votes to 347.</p>

<sup>59</sup> **Errors discount election more** Times Leader, May 23, 2006 by Michael P. Buffer. Archive: <http://www.timesleader.com/mld/timesleader/14645342.htm>

<sup>60</sup> **District 16 recount sought; 432 lost votes cited in suit.** Northwest Arkansas News Source, June 24, 2006. By Daniel Nasaw. <http://www.nwanews.com/adg/News/158589/>. Archive: <http://www.votersunite.org/article.asp?id=6605>

<sup>61</sup> **Vendor bender. City clerk blames ES&S for Election Day difficulties.** Times Record News. May 14, 2006. By Robert Morgan. Archive: <http://www.votersunite.org/article.asp?id=6598>

<sup>62</sup> **Polk County recorder to contest election.** The Des Moines Register, June 24, 2006. Bert Dalmer, Register Staff Writer. <http://desmoinesregister.com/apps/pbcs.dll/article?AID=/20060624/NEWS05/606240322/1001>. Archive: <http://www.votersunite.org/article.asp?id=6607>  
**Faulty voting machines delay results; counting under way.** The Daily Nonpareil Online. June 7, 2006. by Tim Rohwer, Staff Writer. [http://www.zwire.com/site/news.cfm?newsid=16751509&BRD=2703&PAG=461&dept\\_id=555106&rfti=6](http://www.zwire.com/site/news.cfm?newsid=16751509&BRD=2703&PAG=461&dept_id=555106&rfti=6)  
Archive: <http://www.votersunite.org/article.asp?id=6571>



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Date	Equipment	Place/Description
June 2006	ES&S Optical Scanner	<p><b>St. Francis County, Arkansas.</b> A recount of the State Senate District 16 runoff primary race reversed the initial, incorrect results caused by a ballot programming error.<sup>63</sup></p> <p>Results in the Senate District 16 originally showed Representative Arnell Willis of Helena-West Helena defeating Earle School Superintendent Jack Crumbly by 28 votes. However, a recount in St. Francis County on Monday gave Crumbly 100 more votes, making him the winner.</p> <p>Election officials had said earlier that a tabulation error had resulted in 100 fewer votes being counted for Crumbly. St. Francis County Election Commission Chairman Frederick Freeman apologized to the candidates.</p>
November 2006	ES&S M100 Precinct Scanner	<p><b>Butler County, Iowa.</b> A ballot programming error cause ballot scanners to read straight-party votes incorrectly, notifying voters that they were missing votes in all races. The ballot programming error was made in-house.<sup>64</sup></p> <p>“The voter then is thinking, ‘Oh my God, it didn’t vote for the people I wanted to vote for,’ “ county Auditor Holly Fokkena said. However, all the ballots were being tabulated correctly, she added.</p>
November 2006	Diebold AccuVote OS	<p><b>Cuyahoga County, Ohio.</b> Diebold scanner fails one of four pre-election tests.<sup>65</sup></p> <p>In each test, a deck of ballots with known results is run through scanners and the known totals are compared with the results from the machines, which are made by North Canton-based Diebold Inc. One of the tests Wednesday didn’t match, [Michael Vu, director of the county board of elections] said.</p> <p>The problem may be as simple as identifying some scanners which may be too sensitive under certain conditions. Scanners which may be unreliable and need adjusting are then set aside and replaced, he said.</p> <p>“It’s not unusual in the testing that we find an anomaly. Our testing is going over and beyond the normal testing of the past.”</p>
November 2006	ES&S M100 Optical Scanner	<p><b>Fayette County, West Virginia.</b> Programming in the scanners tabulated the votes incorrectly. County Clerk Kelvin Holliday had instituted a cross-checking system and discovered that tallies didn’t match. Correcting the tallies changed the margins in several races.<sup>66</sup></p> <p>“The software failed us ... Those who voted on paper ballots were potentially being disenfranchised in Fayette County.”</p>

<sup>63</sup> **Recount In AR Race Reverses Result.** Eyewitness News. June 20, 2006. [http://www.myeeyewitnessnews.com/news/local/story.aspx?content\\_id=3734B371-B2D5-416C-9A72-D1AF88685953](http://www.myeeyewitnessnews.com/news/local/story.aspx?content_id=3734B371-B2D5-416C-9A72-D1AF88685953). Archive: <http://www.votersunite.org/article.asp?id=6606>

<sup>64</sup> **Voting snags are resolved quickly, Iowans report.** Des Moines Register. November 8, 2006. By Jennifer Jacobs. Archive: <http://www.votersunite.org/article.asp?id=6807>

<sup>65</sup> **Cuyahoga County elections staff probe inaccurate scan test.** Contra Costa Times. By M.R. Kropko, Associated Press, November 3, 2006. Archive: <http://www.votersunite.org/article.asp?id=6717>

## Ballot-Scanner Voting System Failures in the News – A Partial List

Date	Equipment	Place/Description
November 2006	ES&S Optical Scanner	<b>Greenville County, South Carolina.</b> The county had to count by hand at least 600 absentee ballots that optical scanners failed to count. <sup>67</sup>
November 2006	ES&S 550 Central Scanner	<p><b>Jackson County, Oregon.</b> Scanners miscount, jam, and fail to read blue ink.<sup>68</sup></p> <p>Two new Elections System and Software 550 scanning machines have been put out of commission because they were involved in the miscount of Precinct 2 in Ashland.</p> <p>In addition, ballots jammed during the election as they were fed into the four 550 counting scanners, creating headaches for Elections Center staff.</p> <p>And though the Elections Center upgraded the machines to read blue ink and black ink, the scanners didn't work as [County Clerk Kathy] Beckett had hoped.</p> <p>"They said they would count blue ink, but it counts some blue ink but not all," she said.</p>
November 2006	Diebold AccuVote OS	<p><b>Marin County, California.</b> Scanner problems in many precincts. Some scanners wouldn't accept the first page of the ballot.<sup>69</sup></p> <p>"It refused to take the first ballot page it didn't get counted," [Gordon Chan, a voter] said. "(Poll workers) put it in a box and said they would count it later. It's kind of disconcerting, it says you voted but it doesn't tell you whether you voted completely."</p>
November 2006	ES&S M100 Precinct Scanner	<p><b>Pottawattamie County, Iowa.</b> A software programming error on the ES&amp;S tabulator delayed counting.<sup>70</sup></p> <p>"The ballots are fine, the machines are fine, it's the program for the counting equipment," county Auditor Marilyn Jo Drake said. "That's nothing my office can check."</p>

<sup>66</sup> **Fayette glitches lead to all-night vote count.** The Register-Herald. November 8, 2006. Amelia Pridemore. [http://www.register-herald.com/BNlgolf/local\\_story\\_312231202.html?keyword=topstory](http://www.register-herald.com/BNlgolf/local_story_312231202.html?keyword=topstory). Archive: <http://www.votersunite.org/article.asp?id=6817>

<sup>67</sup> **Hendersonville voters back building height restriction.** Tryon Daily Bulletin November 13, 2006. Archive: <http://www.votersunite.org/article.asp?id=6861>

<sup>68</sup> **Who wins the race in Ashland? Problems with ballot count continue to confound county elections officials.** Mail Tribune. November 14, 2006. By Damian Mann. <http://archive.mailtribune.com/archive/2006/1114/local/stories/ash-election-folo.htm>. Archive: <http://www.votersunite.org/article.asp?id=8408>

<sup>69</sup> **Snafus, irregularities at Bay Area polling stations.** San Francisco Chronicle. November 7, 2006. By Marisa Lagos, Demian Bulwa and Carl Nolte, Staff Writers. <http://sfgate.com/cgi-bin/article.cgi?f=/c/a/2006/11/07/BAGROM7KQ27.DTL&type=politics>. Archive: <http://www.votersunite.org/article.asp?id=8405>

<sup>70</sup> **Voting snags are resolved quickly, Iowans report.** Des Moines Register. November 8, 2006. By Jennifer Jacobs. Archive: <http://www.votersunite.org/article.asp?id=6807>

## Ballot-Scanner Voting System Failures in the News – A Partial List

Date	Equipment	Place/Description
November 2006	Diebold AccuVote OS	<p><b>Waterville, Maine.</b> One of the scanners reported 27,000 votes in a town with about 11,000 registered voters. All 5,000 ballots were rescanned.<sup>71</sup></p> <p>[City Clerk Arlene Strahan] said the malfunction remains puzzling. Before Election Day, Strahan said she ran standard tests on the city’s seven tabulators and each worked properly.</p> <p>Strahan said LHS Inc. is phasing out the machines and will no longer provide technical support.</p> <p>The city already has some money dedicated to buying replacements, but voting machines are not cheap. Strahan said they cost about \$6,000 each.</p>
November 2007	ES&S M100 Precinct Scanner	<p><b>Ashtabula County, Ohio.</b> A ballot programming error prevented the tabulator machines from accepting more than one name on the ballot in multiple-candidate races. The ballots were counted by hand.<sup>72</sup></p> <p>“It was a coding error,” [Richard Hornstein, county election board director] said. “It just happens.”</p>
November 2007	ES&S M100 Precinct Scanner	<p><b>Lawrence County, Ohio.</b> A ballot programming error, by ES&amp;S, on the M100 tabulator caused the votes for Hamilton Township trustee to be reversed.<sup>73</sup></p> <p>Lawrence County Board of Elections Deputy Director Eric Bradshaw said the results were flipped, that Bill Robinson is the actual winner with 374. Allan Blankenship got 170 votes.</p> <p>“It was a programming error and that race got recorded exactly opposite,” he said. “I don’t know what happened. We have people coming in from ES&amp;S software in Omaha and a programmer from Columbus.”</p>
January 2008	ES&S M100 Precinct Scanner	<p><b>Sacramento County, California.</b> M100 optical scanners malfunctioned in many ways during the pre-election “logic and accuracy” tests.<sup>74</sup></p> <p>With some machines, the ballot could not be loaded at all, or only accepted if loaded in backwards. In some cases, Democratic votes were not being recorded by a scanner. With other machines, it would be Republican votes that were not recorded. And with some machines, there were no problems at all. With the election within two weeks, [County Registrar of Voters Jill] Lavine decided to forego using the scanners altogether, and count the ballots centrally at the county election office.</p>

<sup>71</sup> **Results slowed by machine trouble.** Morning Sentinel. November 9, 2006. By Colin Hickey. Archive: <http://www.votersunite.org/article.asp?id=6810>

<sup>72</sup> **Coding error delays school board results.** The Star Beacon. November 6, 2007. By Mark Todd. [http://www.starbeacon.com/local/local\\_story\\_310232605.html](http://www.starbeacon.com/local/local_story_310232605.html). Archive: <http://www.votersunite.org/article.asp?id=7301>

<sup>73</sup> **Township race result flipped because of error.** The Ironton Tribune, November 8, 2007. By Mark Shaffer. Archive: <http://www.votersunite.org/article.asp?id=7331>

<sup>74</sup> **Voting equipment problems in Sacramento lead to change of plans.** California Voter Foundation. January 23, 2008. By Kim Alexander. [http://calvoter.org/news/blog/2008\\_01\\_01\\_blogarchive.html#8346006591992454113](http://calvoter.org/news/blog/2008_01_01_blogarchive.html#8346006591992454113)

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Date	Equipment	Place/Description
February 2008	Hart InterCivic eScan	<p><b>Colorado.</b> State testing discovered that the eScan optical scanner continues to have the problem that led to its initial decertification in the State. It fails to detect and count marks on the ballot consistently, leading to inaccurate results.<sup>75</sup></p> <p style="padding-left: 40px;">The machines, known as optical scanners, too often read stray marks as votes, even if they are just the tiny dots from somebody resting a pen on the ballot before marking a box, according to the reports.</p>
March 2008	ES&S M100 Precinct Scanner	<p><b>Sacramento County, California.</b> During pre-election test in January, some ballots were rejected or misread, including some valid votes that were not recognized at all by the M100 precinct scanner used at precincts across the county.<sup>76</sup></p> <p style="padding-left: 40px;">During its investigation, the county said that the vendor that supplies and maintains the scanners, Elections Systems &amp; Software, conducted improper recalibration and preventive maintenance on the machines in December. In addition, the report said that ballots printed by Consolidated Printers were too dark to allow the ballot to be correctly read by the faulty scanners.</p>
August 2008	Diebold EMS	<p><b>Hillsborough County, Florida.</b> The optical scan vote counting system failed to report votes properly from the two scanners.<sup>77</sup></p> <p style="padding-left: 40px;">In the GEMS software, [Director of Government Affairs for Premier Kathy] Rogers said, settings were not aligned between the two types of machines used Tuesday to read ballots that were cast. One machine, called OSX, was used at the precincts to tabulate early voting and Election Day voting. The other one, which made its debut with Premier software in Sarasota and Hillsborough counties, is called PCS and read all the absentee ballots.</p>

<sup>75</sup> **Vote scanners still face doubts.** Denver Post. February 17, 2008. By John Ingold. [http://www.denverpost.com/headlines/ci\\_8283953](http://www.denverpost.com/headlines/ci_8283953).  
Archive: <http://www.votersunite.org/article.asp?id=7544>

<sup>76</sup> **Machine vendor miscalibrated vote scanners, county officials say.** The Sacramento Bee. March 24, 2008. By Bobby Caina Calvin. Archive: <http://www.votersunite.org/article.asp?id=7613>

<sup>77</sup> **Vendor blamed for optical scan problems.** WMNF Evening News. August 27, 2008. By Seán Kinane. [http://www.wmnf.org/news\\_stories/6039](http://www.wmnf.org/news_stories/6039).  
Archive: <http://www.votersunite.org/article.asp?id=7862>

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Date	Equipment	Place/Description
August 2008	Sequoia 400C Optical Scanner	<p><b>Palm Beach County, Florida.</b> A month of primary recounts twice flipped the winner in a local judicial race and revealed grave problems in the county's election infrastructure, including optical scanners that are literally unable to produce the same results twice. Early in October, a test conducted by the county revealed the unreliability of the scanners.<sup>78</sup></p> <p>[Gerald Richman, an attorney who witnessed the tests firsthand] said the county then re-scanned two batches of 51 ballots each that had initially been rejected for having no vote cast in the judicial race, but that were found in a manual examination to contain legitimate votes for one candidate or the other. The first batch of 51 ballots were found to have legitimate votes for Abramson. The second batch of 51 ballots were found to have legitimate votes for Wennet.</p> <p>In the ballots containing votes for Abramson, 11 of the 51 ballots that had previously been rejected as undervotes were now accepted by one of the machines as having legitimate votes, and the remaining 40 ballots were rejected as having no vote. In the ballots containing votes for Wennet, the same machine accepted 2 ballots and rejected 49.</p>
September 2008	Sequoia Optical Scanners	<p><b>District of Columbia.</b> About 3,500 write-in votes were recorded in the initial results. Officials investigated and discovered there were only about 450.<sup>79</sup></p> <p>Initially, officials speculated that the error was caused by a defective memory cartridge, but a week later, the problem remained unexplained. The DCBOEE is initiating an investigation.<sup>80</sup></p> <p>Cheh, chairman of a special council committee probing the primary and overall board operations, said she issued the subpoena to Sequoia Voting Systems, the company that provides the city's voting equipment, because there is no time to waste. "This is less about my worry that they will or will not be cooperative . . . and more about getting everything underway right away," Cheh said, adding that the committee will hold a hearing Oct. 3. "We are all on a short timeline."</p>

<sup>78</sup> **Florida Primary Recount Reveals Grave Voting Problems One Month Before Presidential Election.** Wired. By Kim Zetter. October 7, 2008. <http://www.wired.com/threatlevel/2008/10/florida-countys/>

<sup>79</sup> **DCBOEE Issues Statement; Nickles Investigating Voting Irregularities.** DCist. September 10, 2008. [http://dcist.com/2008/09/10/nickles\\_investigating\\_voting\\_irregu.php](http://dcist.com/2008/09/10/nickles_investigating_voting_irregu.php). Archive: <http://www.votersunite.org/article.asp?id=7917>

<sup>80</sup> **Firm Subpoenaed in Vote Tally. Errors Add to Election Board's Concerns About November.** Washington Post. September 19, 2008. By Nikita Stewart and Mary Pat Flaherty, Staff Writers. <http://www.washingtonpost.com/wp-dyn/content/article/2008/09/18/AR2008091803736.html>. Archive: <http://www.votersunite.org/article.asp?id=7935>

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Date	Equipment	Place/Description
September 2008	ES&S M100 precinct Scanner	<b>Plymouth Township in Wayne County, Michigan.</b> A recount showed 78 less votes than originally reported in the Township Clerk contest. Two of the four precincts could not be recounted according to state law, since the number of ballots did not match the voters signed in. The 78-vote decrease occurred in only two of the precincts. <sup>81</sup>
October 2008	Sequoia 400C Optical Scanner	<b>Palm Beach County, Florida.</b> High-speed optical scanners are reading the creases in absentee ballots as votes. Overvotes are being rejected and duplicated on unfolded ballots for re-scanning. <sup>82</sup>  “The creases, sometimes they fall close to a race,” explained acting elections supervisor Brad Merriman on Friday. “And if they do, that might cause the ballot to not be read properly through the high speed tabulators.”  State Representative Mary Brandenburg requested a hand recount, pointing out that if a voter did not vote in a race, but a machine mistakenly read a crease as a vote, no one would ever know. Sequoia and the elections office agreed that was possible, but the Secretary of State’s office denied the request for a recount. <sup>83</sup>
November 2008	Diebold AccuVote OS	<b>Blackhawk County, Iowa.</b> A hand recount showed seven less ballots than the optical scanner reported in the Waterloo precinct. In another precinct, 18 valid votes were found on the 19 ballot rejected by the scanner. <sup>84</sup>
November 2008	Hart InterCivic Ballot Now	<b>Boulder County, Colorado.</b> Ballots are scanned by a Kodak scanner and the votes are tabulated by analyzing the images. The system was misreading some ballots because of a vertical streak on the image. The county speculates that this streak was caused by dust on the ballots, possibly coming from the creases after the mail-in ballots were folded. <sup>85</sup>  The dust is making the optical scanners think some people overvoted or filled in too many boxes. ... Dust on the scanner lens can cause a faint streak to appear vertically down a scanned ballot.

<sup>81</sup> **Canvassers uphold decision in Plymouth Township recount.** The Journal Newspapers. September 6, 2008. By Lester L. Holmes, Jr.

<http://www.journalgroup.com/Plymouth/8342/canvassers-uphold-decision-in-plymouth-township-recount>.

Archive: <http://www.votersunite.org/article.asp?id=7908>

<sup>82</sup> **New Wrinkle.. That is, Crease.. in Tabulating Votes.** WPEC TV. October 31, 2008. By Chuck Weber. <http://www.cbs12.com/news/ballot-4710488-vote-absentee.html>.

Archive: <http://www.votersunite.org/article.asp?id=8099>

<sup>83</sup> **Ballot Crease-Vote Counting Controversy Grows.** WPEC TV. November 3, 2008. By Chuck Weber. <http://www.cbs12.com/news/vote-4710522-absentee-ballot.html>.

Archive: <http://www.votersunite.org/article.asp?id=8110>

<sup>84</sup> **Rogers requests total recount; Danielson clings to lead by 14 votes.** WCF Courier. November 13, 2008. By Jens Manuel Krogstad.

<http://www.wfcourier.com/articles/2008/11/13/news/local/doc491b5b36bef3f013959179.txt>. Archive: <http://www.votersunite.org/article.asp?id=8230>

<sup>85</sup> **Blame Game In Boulder Ballot Counting Snafu Begins: Dust, Creases Slow Ballot Count In Boulder.** The Denver Channel (ABC 7 News). November 6, 2008.

<http://www.thedenverchannel.com/news/17895498/detail.html>. Archive: <http://www.votersunite.org/article.asp?id=8404>

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Date	Equipment	Place/Description
November 2008	ES&S M100 Optical Scanner	<p><b>Centre County, Pennsylvania.</b> Vote-counting errors on the optical scanners:<sup>86</sup></p> <p>Officials said there was a difference in how one of the new Optiscan machines counted the votes in the 26th precinct, as opposed to the actual number of ballots cast (sic).</p> <p>Workers were counting the ballots by hand as of noon. Similar vote count problems with two other State College precincts were corrected early Wednesday.</p>
November 2008	ES&S Optical Scanner	<p><b>Crawford County, Kansas.</b> A scanner error reading ballots affects four races, and could affect the outcome of the already tight Crawford County attorney's race. The M100 scanners were not programmed to handle the rotation of candidates on the ballots.<sup>87</sup></p>
November 2008	Sequoia EMS	<p><b>District of Columbia.</b> After reviewing the November 4 election results, Councilmember Mary M. Cheh, has determined that there are irregularities that suggest systemic problems in the District's election software. Anomalies include:<sup>88</sup></p> <ul style="list-style-type: none"> <li>◆ In Single-Member-District 6B11, which houses the District of Columbia Jail, the final unofficial election results showed no precinct reporting and 5 undervotes.</li> <li>◆ In the Single-Member-District 5C09, which is located in precinct 74, there were 15 votes cast in a different precinct (73), where no voters were eligible to vote in that Advisory Neighborhood Commissioner race.</li> <li>◆ According to registration statistics provided to the Council, 2 voters are registered to vote in SMD 6C09 in precinct 1. The election results show three votes for Single-Member-District 6C09 Advisory Neighborhood Commissioner candidate, Charley Docter.</li> </ul>

<sup>86</sup> **Centre County Recounts Ballots After Discrepancy.** WJACTV.com. November 5, 2008. <http://www.wjactv.com/news/17900285/detail.html>.  
Archive: <http://www.votersunite.org/article.asp?id=8163>

<sup>87</sup> **Error comes from voting machine programming.** The Morning Sun. November 7, 2008. by Kevin Flaherty.  
<http://www.morningsun.net/news/x635432391/Error-comes-from-voting-machine-programming>. Archive: <http://www.votersunite.org/article.asp?id=8192>

<sup>88</sup> **More DC Voting Problems.** WUSA9. November 11, 2009. by Bruce Johnson. <http://www.wusa9.com/news/local/story.aspx?storyid=78192&catid=158>.  
Archive: <http://www.votersunite.org/article.asp?id=8215>

## Ballot-Scanner Voting System Failures in the News – A Partial List

### EMS Miscounts and Other Failures

The Election Management System typically resides on a computer in the central office. Vote data from the scanners is uploaded to the EMS computer, either directly from memory cards or via modem. The EMS aggregates the votes and prepares the reports of results.

Most of the 35 malfunctions in this section caused the results to be reported incorrectly. In some cases, the system slowed down or crashed.

Date	Equipment	Place/Description
November 1998	ES&S EMS	<p><b>Dallas County, Texas.</b> A programming error lost 41,015 votes.<sup>8990</sup></p> <p>A software programming error caused Dallas County, Texas’s new, \$3.8 million high-tech ballot system to miss 41,015 votes during the November 1998 election. The system refused to count votes from 98 precincts, telling itself they had already been counted. Operators and election officials didn’t realize they had a problem until after they’d released “final” totals that omitted nearly one in eight votes.</p> <p>...The company took responsibility and was trying to find two apparently unrelated software bugs, one that mistakenly indicated precinct votes were in when they weren’t, and another that forgot to include 8,400 mail-in ballots in the final tally.</p>
November 2000	Diebold AccuVote OS	<p><b>Volusia County, Florida.</b> Internal Diebold memos (leaked in 2003) show that the company officials knew about the 16,022 Gore votes that were subtracted, and they still don’t have an explanation for why the votes were lost. Tampering may have been the cause.</p> <p>The memos show that more than a year ago, Diebold knew of a problem with the Florida 2000 election - where a memory card inexplicably subtracted 16,022 votes from a total previously recorded for Vice President Al Gore.</p> <p>Tampering was one of four possible causes Diebold couldn’t rule out at the time, the memos show. ...</p> <p>“The problem precinct had two memory cards uploaded,” wrote Diebold tech Tab Iredale in one of the memos among Diebold employees. “There is always the possibility that ‘the second memory card’ came from an unauthorized source.”<sup>91</sup></p>

<sup>89</sup> **Black Box Voting** by Bev Harris, Chapter 2. [http://www.blackboxvoting.org/bbv\\_chapter-2.pdf](http://www.blackboxvoting.org/bbv_chapter-2.pdf)

<sup>90</sup> **Who Counts The Votes?** By Gary Ashwill and Chris Kromm. <http://www.southernstudies.org/reports/votingmachines-new.htm>

<sup>91</sup> **[Tulare] County votes for machines.** By Roger Phelps, The Porterville Recorder; June 10, 2004. [http://myopr.com/articles/2004/06/10/news/local\\_state/news01.txt](http://myopr.com/articles/2004/06/10/news/local_state/news01.txt)



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Date	Equipment	Place/Description
November 2002	ES&S EMS	<p><b>Baldwin County, Alabama.</b> Tabulation machine initially handed the gubernatorial election to the wrong candidate.</p> <p>Initial, unofficial results from Baldwin County showed that Democrat Don Siegelman garnered about 19,070 votes in the county, enough to give him a razor-thin victory over Republican challenger Bob Riley. The next morning, however, officials said those totals were inaccurate and certified returns giving Siegelman about 6,300 fewer votes -- enough to swing the election to Riley.</p> <p>... Officials have traced the problem to a data pack from the Magnolia Springs voting location. They said the vote-counting machine there printed out accurate results when the polls closed at 7 p.m. But they said the cartridge, which resembles an eight-track cassette, gave bogus figures when it was plugged into the computer in Bay Minette.<sup>92</sup></p> <p>...[Mark] Kelley [general manager of Election Systems &amp; Software] said a power surge at the precinct, static electricity or something else may have caused the glitch. He said technical experts at the company's computer lab in Rockford, Ill., may be able to determine the reason.</p> <p>...He noted that at least three other counties experienced similar glitches on election night. But officials in Madison, Etowah and Barbour counties discovered and corrected the errors, in some cases by manually typing in vote totals.</p>
October 2003	Diebold GEMS - Election Management Systems	<p><b>Alameda County, California.</b> A bug in the election management system caused tally errors when the election results from multiple machines were merged.</p> <p>... the cause is a problem with the GEMS 1.18.18 program.<sup>93</sup></p> <p>The only solution is to use a new version of the software, version 1.18.19, if and when it is certified.</p>

<sup>92</sup> **Voting snafu answers elusive.** The Mobile Register; 28 Jan 2003; by Brendan Kirby, staff writer. Referenced at <http://www.votewatch.us/Members/Unregistered%20User/electionexperience.2004-08-12.9166974619> . Confirmed by VotersUnite! with Sharon Jerkins in the Baldwin County Elections office, who provided the model number of the optical scan machines.

<sup>93</sup> **Report of Assurances to Alameda County.** April 26, 2004. By Diebold Election Systems, Inc. Pages 5,6. [http://www.truevotemd.org/ebold\\_rpt\\_alameda.pdf](http://www.truevotemd.org/ebold_rpt_alameda.pdf).

## Ballot-Scanner Voting System Failures in the News – A Partial List

Date	Equipment	Place/Description
March 2004	ES&S Unity EMS	<p><b>Bexar County, Texas.</b> Misprogramming causes the Unity software to balk at accumulating votes from the optical scan machines used to count absentee ballots. <sup>94</sup></p> <p>Tabulation of the Bexar County votes was delayed for about 1 1/2 hours, beginning about 8 p.m.</p> <p>...“They have big problems,” said Nick Peña, a poll watcher for District 28 U.S. Rep. Ciro Rodriguez, D-San Antonio. “They look very worried.</p> <p>“They have a bunch of technicians in the tabulation room, and they are pulling out wires and reattaching them, and the computer screens are all frozen. You can tell that something is happening,” Peña said.</p> <p>... Borofsky said the delay occurred after it was discovered the tabulation computers hadn’t been properly programmed with updated data in order to count the mail-in paper ballots.</p> <p>The computer system then was taken off line and updated with the information needed to process the 3,000 paper ballots, which were tabulated using high-speed scanners.</p>
March 2004	Diebold GEMS	<p><b>San Diego County, California.</b> The tabulation software switched 2,747 Democratic presidential primary votes for U.S. Sen. John Kerry to U.S. Rep. Dick Gephardt. <sup>95</sup></p>

<sup>94</sup> **Bexar computer glitch delays counting of votes.** San Antonio Express News. March 10, 2004. Tom Bower.

<http://www.mysanantonio.com/news/metro/stories/MYSA10.12A.VotingProblems0310.4ea013d9.html>

<sup>95</sup> **Diebold reports multiple problems: Registrar wants reason for e-voting.** TriValley Herald. April 13, 2004. By Ian Hoffman, Staff Writer.

Archive: <http://www.votersunite.org/article.asp?id=2390>

## Ballot-Scanner Voting System Failures in the News – A Partial List

Date	Equipment	Place/Description
July 2004	ES&S Unity EMS	<p><b>Miami-Dade County, Florida.</b> In response to public records requests, more and more bugs surface in the ES&amp;S software used across the United States.<sup>96</sup></p> <p>In a June 3 letter to ES&amp;S, obtained by The Herald in a public records request, Miami-Dade County Supervisor of Elections Constance Kaplan demanded answers to three problems with the iVotronic equipment that she said could take “labor intensive and costly” actions to fix. She asked ES&amp;S to resolve these issues “expeditiously:”</p> <ul style="list-style-type: none"> <li>◆ The central database machines used to tabulate votes are incapable of holding all the audit data at once, requiring a “labor intensive and costly” solution that could complicate a recount in a close race. Audit data is used to back up the system.</li> <li>◆ The optical scanners used to read absentee ballots have problems when information is merged from the three machines the county uses.</li> <li>◆ And the county could potentially mix up votes if it were to try to use phone lines to transmit data from the polling places to the election center, which it doesn’t plan to do.</li> </ul> <p>ES&amp;S responded with: <b>Fix it yourself</b> by changing your election procedures to work around the bugs.</p> <p>ES&amp;S Senior Vice President Ken Carbullido responded to Kaplan on June 14, noting that each of the problems could be resolved if the county alters its procedures, reconfigures its software or, if it wants to transmit data from the polling places, redo the programming code in the machines or retrain its staff.</p>
August 2004	Sequoia EMS	<p><b>Hillsborough County, Florida.</b> The computer indexing system malfunctioned.<sup>97</sup></p> <p>After the polls closed Aug. 31, [County Registrar Buddy] Johnson’s computer servers mysteriously slowed to a snail’s pace, and the vote was not totally counted until 5:10 a.m. the day after the election.</p> <p>After a diagnosis by Sequoia Voting Systems, the vendor that sold Hillsborough its \$12-million package of touch screen voting machines, Johnson announced that a computer indexing system had malfunctioned, causing the server to repeatedly search through its entire data base before recording any single vote.</p> <p>A few days later, Johnson said he wasn’t sure why the computer indexing hadn’t worked properly but declared it “now fixed.”</p>

<sup>96</sup> **Documents detail more voting machine flaws.** The Miami Herald. July 9, 2004. By Mary Ellen Klas. <http://www.miami.com/mld/miamiherald/9111841.htm>

<sup>97</sup> **245 Hillsborough primary votes go uncounted.** St. Petersburg Times. September 18, 2004. By Jeff Testerman, Times Staff Writer. [http://www.sptimes.com/2004/09/18/Hillsborough/245\\_Hillsborough\\_prim.shtml](http://www.sptimes.com/2004/09/18/Hillsborough/245_Hillsborough_prim.shtml)

## Ballot-Scanner Voting System Failures in the News – A Partial List

Date	Equipment	Place/Description
October 2004	Sequoia EMS	<p><b>Bernalillo County, New Mexico.</b> Tally software has added false votes to several elections in the last two years. <sup>98</sup></p> <p>The unresolved issue of phantom votes in Bernalillo County apparently dates back several elections over two years. County Clerk Mary Herrera acknowledged Monday that bogus votes have appeared in at least three elections.</p> <p>She says the problem began when the county purchased new election software for the vote tally machines it uses on election night. <b>In one case, nearly four thousand phantom votes were added to just one race.</b></p> <p>However, the clerk says her vote-counting experts have always found the phantom votes before they were added to the final tally.</p> <p>In June 2004, Herrera sent an emergency request for help to Secretary of State Rebecca Vigil-Giron. Her office says it will help Bernalillo county fix the problem after this year’s election.</p> <p>Vendors have been blaming it on communications, but in spite of efforts to fix the problem, Herrera still does not know what’s causing it. <sup>99</sup></p>
November 2004	Diebold EMS	<p><b>Gaston County, North Carolina.</b> The 1209 votes for the Dallas precinct were deleted from the totals.<sup>100</sup></p> <p>Each precinct transmits results to the elections office by modem after the polls close. When equipment is returned between Wednesday and Friday, the results recorded on it are compared with the results transmitted by modem.</p> <p>There was no data for the Dallas precinct in the database.</p> <p>Office records from election night, kept by a staff member, showed that information was received, Page said. She believes the computer system recorded a successful transmission without receiving any data.</p>

<sup>98</sup> **County clerk say phantom votes won't be a problem.** KRQE Albuquerque. October 26, 2004.

[http://www.krqe.com/expanded3.asp?RECORD\\_KEY%5BLargeHeadline%5D=ID&ID%5BLargeHeadline%5D=7425](http://www.krqe.com/expanded3.asp?RECORD_KEY%5BLargeHeadline%5D=ID&ID%5BLargeHeadline%5D=7425)

<sup>99</sup> Video is here: [http://www.krqe.com/video/expanded3.asp?RECORD\\_KEY\[Video3\]=ID&ID%5BVideo3%5D=1054](http://www.krqe.com/video/expanded3.asp?RECORD_KEY[Video3]=ID&ID%5BVideo3%5D=1054)

<sup>100</sup> **Latest Gaston flub: 1 precinct omitted.** Charlotte Observer. November 13, 2004. Binyamin Appelbaum.

Archive: <http://www.votersunite.org/article.asp?id=3820>

## Ballot-Scanner Voting System Failures in the News – A Partial List

Date	Equipment	Place/Description
November 2004	ES&S Unity EMS	<p><b>Grays Harbor, Washington.</b> Elections officials started recounting about 28,000 ballots on Tuesday after the ES&amp;S Unity reporting system showed too many votes.<sup>101</sup></p> <p>[County Auditor Vern] Spatz said unusually high turnout aroused suspicion that something might be wrong. On Monday, Grays Harbor County was reporting 93 percent turnout, much higher than anywhere else in the state. Officials checked the system and found the problem.</p> <p>After ballots were counted, the results were saved on computer disks and downloaded into another computer to keep a running tally. Some of the disks were apparently downloaded twice by mistake, Spatz said.</p> <p>The recount changed the outcome of the Governor’s race in Grays Harbor County.</p> <p>VotersUnite contacted Mr. Spatz and mentioned that ES&amp;S optical scanners had double-counted ballots in other states during the November election. He was concerned because ES&amp;S Unity Election Management software is supposed to prevent cartridges from being downloaded twice.</p>
November 2004	ES&S Unity EMS (2.2)	<p><b>Guilford County, North Carolina.</b> ES&amp;S early voting machines had capacity problems, which affected anywhere from 6,000 to 20,000 ballots. The totals were so large, the tabulation computer threw some numbers away. Retallying changed two outcomes and gave an additional 22,000 votes to Kerry.<sup>102</sup></p> <p>The biggest change in vote totals outside Mecklenburg was in Guilford County, which includes Greensboro. The computer that tabulates the totals choked when officials uploaded the early voting numbers, which was a particularly large batch of data.</p> <p>“So it just threw some of (the votes) away,” said Guilford County elections director George Gilbert.</p> <p>... The new Guilford numbers boosted Atkinson’s votes by nearly 12,000 in the superintendent’s race, putting her ahead of Republican Bill Fletcher, who got 3,000 more votes in the update.</p> <p>The Guilford totals didn’t change President Bush’s win in the state, but did shift the vote total by 22,000.</p> <p>In a letter to Guilford County, Ken Carbullido, Vice President of ES&amp;S Product Development, explained in very technical language that when the vote totals reached 32,767 (32K), it began subtracting from the totals. This same problem occurred in the 2004 general election in Broward County had.<sup>103</sup></p> <p>In the letter, Mr. Carbullido admitted ES&amp;S knew about the problem but had not advised the county.</p>

<sup>101</sup> **Gray’s Harbor County re-count boosts Gregoire.** kgw.com. November 16, 2004. By Rebecca Cook, Associated Press.  
<http://www.kgw.com/sharedcontent/APStories/stories/D86D7FA80.html>. Archive: <http://www.votersunite.org/article.asp?id=3876>

<sup>102</sup> **Winner so far: Confusion.** The Charlotte Observer. November 5, 2004. By Mark Johnson.  
<http://www.charlotte.com/mld/observer/news/local/10104576.htm?1c>

<sup>103</sup> <http://www.votersunite.org/info/GuilfordESS.pdf>

## Ballot-Scanner Voting System Failures in the News – A Partial List

Date	Equipment	Place/Description
November 2004	ES&S EMS	<p><b>LaPorte County, Indiana.</b> A software flaw caused every precinct to report 300 registered voters. The county is waiting to get a patch from ES&amp;S.</p> <p>The problem lies in the column that is supposed to reflect the number of registered voters per precinct. The column erroneously showed that every precinct had a total of 300 registered voters.<sup>104</sup></p>
November 2004	ES&S Unity EMS (2.2)	<p><b>Orange County, Florida.</b> Among the election equipment foul-ups in Florida, vote tabulating software reached its 32,767 capacity and began counting backwards.<sup>105</sup></p> <p>Sometimes the problem is that votes were miscounted. That’s what happened, officials say, with precinct-by-precinct results posted on the Orange County elections office Web site showing that Democrat John Kerry beat Republican President Bush by 9,227 votes in Orange.</p> <p>That was off by 8,400 votes. Officials working for Bill Cowles, the Orange elections supervisor, said the correct totals, available elsewhere on the site, showed that Kerry bested Bush in the county by only 827 votes.</p> <p>The cause of the error, Orange officials said Thursday, was a software program that could not tabulate more than 32,767 votes in a single precinct. On election night, officials anticipated the problem and adjusted for it, deputy election official Lonn Fluke said Thursday.</p> <p>... A similar discrepancy affected vote totals posted online for the U.S. Senate race between Republican Mel Martinez and Democrat Betty Castor. But neither online counting problem made it into the real totals sent to Tallahassee, election officials insist.</p>
November 2004	ES&S EMS	<p><b>San Francisco County, California.</b> The ES&amp;S software failed to accurately count votes in the city’s new ranked-choice voting system. The software converts optical scans of ballot results into data that the computer system uses to calculate winners. The conversion software shutdown when the amount of data entering the system had exceeded a “safeguard” limit set by the vendor.<sup>106</sup></p> <p>The safeguard was to prevent the system from exceeding its capacity. But after the breakdown, ESS determined the limitation was no longer necessary and received permission from the California Secretary of State to shut down the mechanism and restart the counting process, Ken Fields, spokesman for ESS, said.</p>

<sup>104</sup> **Voter turnout still not known.** Herald Argus. November 4, 2004. By Kori Kamradt. Archive: <http://www.votersunite.org/article.asp?id=3777>

<sup>105</sup> **Distrust fuels doubts on votes: Orange’s Web site posted wrong totals.** Orlando Sentinel. November 12, 2004. By David Damron, Sentinel Staff Writer. Archive: <http://www.votersunite.org/article.asp?id=3803>

<sup>106</sup> **San Francisco Finds Fix For Election Day Tech Snafu.** InternetWeek.com. November 5, 2004. By Antone Gonsalves, TechWeb News. <http://www.informationweek.com/news/showArticle.jhtml?articleID=52200321>. Archive: <http://www.votersunite.org/article.asp?id=4745>

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Date	Equipment	Place/Description
March 2006	Sequoia Insight Optical Scanner & EMS	<p><b>Cook County, Illinois.</b> Contract revocation considered because of problems in March 21 Primary.<sup>107</sup> Thousands of votes in more than 50 precincts went uncounted where Sequoia machines were in use. Tabulation problems were cited by officials.</p> <p>“The administration of this election was a train wreck,” [Commissioner Forrest Claypool] said.</p> <p>Thousands of votes in more than 500 precincts went uncounted Tuesday night in the county and in Chicago, which also uses the high-tech system provided by Sequoia Voting Systems. City and county election boards still hadn’t tallied up all of the votes by Wednesday night.</p> <p>The system uses optical scanners and touch-screen voting machines. Some of the delay was blamed on the difficulty of combining results from the two machines. Some polling places were unable to transmit results to election headquarters. There were also paper ballots that wouldn’t scan properly and had to be taken downtown.</p> <p>Minor breakdowns of some equipment exacerbated the problems, but Sequoia officials insisted Wednesday that the system “performed very well, overall.”</p>
March 2006	ES&S M-100, AutoMARK	<p><b>La Salle County, Illinois.</b> In the first election held with the county’s new AutoMARK units, an ES&amp;S Technician’s error was blamed for incorrect totals delivered the night of an election held March 21, 2006.<sup>108</sup></p> <p>County Clerk said that all votes were tabulated in the computer system; however, incorrect numbers were being printed and posted on the web site because of a technician’s error, and in an attempt to correct his mistake, he created a problem with eight additional precincts, in which the votes were being doubled. The problem took several hours to fix.</p>
March 2006	Hart InterCivic EMS	<p><b>Tarrant County, Texas.</b> Computer programming errors added 100,000 votes to the final tallies in both primaries, leading to multiple candidate requests for recounts.<sup>109</sup></p> <p>About half a dozen candidates in both parties have requested free recounts of primary election votes, – but state and local officials say the politicians will first have to plunk down deposits of as much as \$4,500 for the do-over.</p> <p>This comes despite promises last week that free recounts would be available in Tarrant County, where a computer programming error counted some votes multiple times and <b>boosted the final tally in both primaries by as much as 100,000 votes.</b></p>

<sup>107</sup> **Vote snafu: Some blame new equipment.** Chicago Sun-Times. Mar 23, 2006. by Steve Patterson. <http://www.suntimes.com/output/elect/cst-nws-machine23.html>

<sup>108</sup> **Technician causes glitch in printed results.** The Times, March 22, 2006 by Tammie Sloup. Story archived at <http://mywebtimes.com/ottnews/archives/ottawa/sections.cgi?prcss=display&id=256964>

<sup>109</sup> **Primary Election Outcomes challenged** Star -Telegram, March 15, 2006 by Anna M. Tinsley. <http://www.dfw.com/mld/dfw/14108253.htm>

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Date	Equipment	Place/Description
May 2006	ES&S Optical Scanner & EMS	<p><b>Mahoning County, Ohio.</b> May 2 primary elections encountered many problems, including malfunctioning equipment.<sup>110</sup></p> <p>The county’s central voting system machine didn’t recognize the software used on the optical scanners used to count absentee paper ballots. Also, some of the paper absentee ballots provided by Olfield Graphics in Austintown weren’t cut correctly and several of them couldn’t initially be read by the optical scanners, McCabe said. A process that typically takes two hours took five hours and 15 minutes, McCabe said.</p>
May 2006	ES&S Optech Eagles, Unity EMS	<p><b>Pulaski County, Arkansas.</b> ES&amp;S election software malfunctions, and ES&amp;S programmed the ballots incorrectly.<sup>111</sup></p> <p>[County attorney Karla ] Burnette said the problems were two-fold, resulting from a malfunctioning opening and closing system of the electronic voting machines and mistakes in programming.</p> <p>“The machines were programmed by precincts instead of polling sites. We have several precincts that go to the same polling site,” Burnette said. “The system did not know where to put those votes. The software couldn’t recognize those votes.”</p> <p>Optical scan machines, referred to by election officials as “Eagles,” also malfunctioned because of malfunctioning Unity Software for the iVotronic electronic voting machines, supplied by ES&amp;S.</p>
November 2006	ES&S M100 Optical Scanner & EMS	<p><b>Flathead County, Montana.</b> Optical scanner memory cartridges read by the computers counted all votes for just one candidate.<sup>112</sup></p> <p>County Election Director Monica Eisenzimer says she felt more comfortable using the printouts to count the votes anyway, “especially with all the speculation about the machines.”</p>
November 2007	Hart InterCivic eScan	<p><b>Hamilton County, Ohio.</b> Vote data from the eScan optical scanners was read incorrectly when it was uploaded to the central tabulator.<sup>113</sup></p> <p>Tim Burke, chairman of the Hamilton County Board of Elections, said that there were problems when some of the memory chips from the vote-tallying machines at polling places got downtown to the board’s offices on Broadway. When the chips were fed into the machines at the board of elections, they were giving false readings, Burke said.</p>

<sup>110</sup> **Election problems fuel dispute** The Vindicator, May 23, 2006 by David Skolnick.

Archive: [http://www.vindy.com/content/local\\_regional/292377332576076.php](http://www.vindy.com/content/local_regional/292377332576076.php)

<sup>111</sup> **County election woes blamed on company.** Jacksonville Patriot. May 31, 2006. By Toni Walthall, Editor.

Archive: <http://www.votersunite.org/article.asp?id=6594>

<sup>112</sup> **Voting Technology: Communication breakdown.** Missoula Independent, November 16, 2006. by Paul Peters.

Archive: <http://www.votersunite.org/article.asp?id=6882>

<sup>113</sup> **Slow vote count meant long night for Hamilton County.** The Enquirer, November 6, 2007. By Howard Wilkinson.

Archive: <http://www.votersunite.org/article.asp?id=7303>



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Date	Equipment	Place/Description
February 2008	ES&S M100 Precinct Scanner & EMS	<p><b>Cochise County, Arizona.</b> As the county accumulated totals from the precincts, a computer error kept adding the results for five polling places every time new figures were added.<sup>114</sup></p> <p>The error got worse when the cumulative error went through five updates.</p> <p>It was then realized the total number of ballots cast according to the wrong report was more than the people registered in the county, [Cochise County Election Office Tom] Schelling said.</p>
April 2008	Diebold EMS	<p><b>Butler County, Ohio.</b> Election officials discovered a “serious problem in the GEMS program provided by Premier Elections Solutions.” On the night of the March 4 election, even though the system reported that all memory cards had been uploaded properly, one of the memory cards had not been. The system did not report the error, and the officials found it accidentally while examining the database for an unrelated reason. In their subsequent complaint letter to Diebold, they pointed out: <sup>115</sup></p> <p>“A situation of this nature could impact any election. It may appear that every vote has been counted when cards indicate they are being properly uploaded, when in fact votes cast on a memory card(s) are not tabulated in the results.”</p> <p><b>A state investigation found that 11 Ohio counties had experience the same error:</b> Belmont, Butler, Cuyahoga, Green, Guernsey, Henry, Jefferson, Lucas, Miami, Montgomery, and Stark. <sup>116</sup></p>
May 2008	ES&S EMS	<p><b>Mecklenburg County, North Carolina.</b> About 2,400 absentee ballots were counted twice by the ES&amp;S Unity tabulation system.<sup>117</sup></p> <p>Alan Teitleman noticed the problems in Mecklenburg Co. when the absentee ballot count for every candidate ended with an even number. That’s 83 candidates, all ending even. He brought the statistical anomaly to Dickerson’s attention.</p>

<sup>114</sup> **Computer glitch causes hiccup in Cochise County tally.** Wick News Service. February 7, 2008. By Bill Hess.

<http://www.douglasdispatch.com/articles/2008/02/07/news/doc47ab6bc4d0b70550988123.txt>. Archive: <http://www.votersunite.org/article.asp?id=7520>

<sup>115</sup> **Butler County missed 105 votes.** Cincinnati Enquirer. April 8, 2008. By Gregory Korte. Archive: <http://www.votersunite.org/article.asp?id=7628>

<sup>116</sup> Ohio Secretary of State. Press Release. August 6, 2008. <http://www.sos.state.oh.us/SOS/PressReleases/2008%20Press%20Releases/2008-0806.aspx>

<sup>117</sup> **Mecklenburg, Wake find vote flaws.** News 14 Carolina. May 9, 2009. By Shawn Flynn. [http://news14.com/content/top\\_stories/595595/mecklenburg--wake-find-vote-flaws/Default.aspx](http://news14.com/content/top_stories/595595/mecklenburg--wake-find-vote-flaws/Default.aspx). Archive: <http://www.votersunite.org/article.asp?id=7703>

## Ballot-Scanner Voting System Failures in the News – A Partial List

Date	Equipment	Place/Description
May 2008	ES&S M100 Scanner & EMS	<p><b>Onslow County, North Carolina.</b> About 4,000 optical scan ballots from early voting -- apparently uploaded correctly -- weren't counted by the tabulation software. A state representative noticed the low number of votes from some one-stop voting sites and the county investigated.<sup>118</sup></p> <p>[Rose Whitehurst, director of the Onslow County Board of Elections] said what happened was that when she uploaded the votes, she thought the votes were counted.</p> <p>"When we started looking over the report, we found that the votes didn't all go into the software," she said. "We started doing an audit and ran through the information (and found that) both one-stops weren't counted."</p>
May 2008	ES&S EMS	<p><b>Wake County, North Carolina.</b> About 37,000 optical scan ballots were counted twice by the ES&amp;S Unity tabulation system.<sup>119</sup></p> <p>In Wake County, early and absentee ballots were counted as part of the individual voters precincts and again as a whole. "So in essence, those voters were recorded double," said Cherie Poucher of the Wake Co. Board of Elections.</p>
June 2008	Sequoia EMS (Insight and 400C)	<p><b>Palm Beach County, Florida.</b> About 700 votes for three precincts (14% of the total votes) weren't counted on election night after Tuesday's special city commission election. According to elections office spokeswoman Kathy Adams, the cartridges from those precincts hadn't uploaded properly to the central tabulator.<sup>120</sup></p> <p>She said the office didn't know why the cartridges weren't read properly the first time. She said it was possible that one reader wasn't working properly and that all three cartridges were read by that reader.</p>

<sup>118</sup> **Thousands of votes missed in Tuesday tallies.** Jacksonville Daily News. May 9, 2008. By Heather Gale. <http://www.jdnews.com/articles/votes-56535-board-onslow.html>. Archive: <http://www.votersunite.org/article.asp?id=7696>

<sup>119</sup> **Mecklenburg, Wake find vote flaws.** News 14 Carolina. May 9, 2009. By Shawn Flynn. [http://news14.com/content/top\\_stories/595595/mecklenburg--wake-find-vote-flaws/Default.aspx](http://news14.com/content/top_stories/595595/mecklenburg--wake-find-vote-flaws/Default.aspx). Archive: <http://www.votersunite.org/article.asp?id=7703>

<sup>120</sup> **Nearly 700 West Palm votes not tallied election night.** Palm Beach Post. June 28, 2008. By Thomas R. Collins. [http://www.palmbeachpost.com/localnews/content/local\\_news/epaper/2008/06/27/0627wpbelex.html](http://www.palmbeachpost.com/localnews/content/local_news/epaper/2008/06/27/0627wpbelex.html). Archive: <http://www.votersunite.org/article.asp?id=7772>

## Ballot-Scanner Voting System Failures in the News – A Partial List

Date	Equipment	Place/Description
June 2008	Sequoia EMS	<p><b>San Bernadino County, California.</b> The reporting software fails to include precincts that are all vote-by-mail. Sequoia has known about the defect for at least a year, but has not yet corrected it. Riverside County’s registrar also has known about the problem and has developed workarounds to deal with it.<sup>121</sup></p> <p>[San Bernadino County Registrar Kari] Verjil said San Bernardino County’s voting machines read the votes and precinct numbers on ballots cast by voters at polling places, but do not read the precinct numbers on mail-in ballots.</p>
November 2008	ES&S M100 Precinct Scanners & EMS	<p><b>Craven County, North Carolina.</b> A memory card error caused only part of the main one-stop (early voting) ballots to be uploaded from one site. The county uses touch screens and M100 scanners. Revised numbers raise the turnout from 60% to 65% and may change the outcome of a State Representative race. An error in the reporting software also incorrectly categorized some ballots as absentee.<sup>122</sup></p> <p>Officials say that coding errors, made by ES&amp;S and distributed by Print Elect, caused the software to read the data incorrectly.<sup>123</sup></p> <p>Four ballot styles reflecting the district in which voters of particular precinct could participate and the “Geo-codes” were not entered correctly and produced reporting problems.</p>
November 2008	ES&S EMS	<p><b>Forsyth County, North Carolina.</b> An error occurred while uploading data from Precincts 601 and 604, causing incomplete vote data to be included in the initial results. The article describe the error:<sup>124</sup></p> <p>[Rob Coffman, Forsyth County’s director of elections,] said that the two precincts did correctly record the votes cast for each candidate, but when the results were fed into a computer that tallies all the returns, a mistake caused the software to omit results for the 74th N.C. House District in those two precincts. That, in turn, caused the vote totals in some other races to be incorrect. The corrected totals for the two precincts will result in slight changes in the totals of a number of other political contests.</p>

<sup>121</sup> **Software glitch led to precinct, vote uncertainty in SB County.** The Press Enterprise. June 5, 2008. By Darrell R. Santschi and Cindy Martinez Rhodes. [http://www.pe.com/localnews/inland/stories/PE\\_News\\_Local\\_N\\_glitch05.41ce262.html](http://www.pe.com/localnews/inland/stories/PE_News_Local_N_glitch05.41ce262.html). Archive: <http://www.votersunite.org/article.asp?id=7733>

<sup>122</sup> **Revised numbers add to turnout in Craven election.** ENC Today.com. November 13, 2008. by Sue Book. <http://www.enctoday.com/news/votes-42894-nbsj-election-county.html>. Archive: <http://www.votersunite.org/article.asp?id=8219>

<sup>123</sup> **Canvass in Craven won’t be complete until Monday.** ENC Today.com. November 14, 2008. by Sue Book. <http://www.enctoday.com/news/elections-42912-nbsj-election-board.html>. Archive: <http://www.votersunite.org/article.asp?id=8222>

<sup>124</sup> **Gap in judicial contest narrows. Vote-count correction may lead to a recount.** Winston-Salem Journal. November 8, 2008. By Wesley Young. <http://www2.journalnow.com/content/2008/nov/08/gap-in-judicial-contest-narrows/>. Archive: <http://www.votersunite.org/article.asp?id=8226>

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Date	Equipment	Place/Description
November 2008	Diebold Optical Scanner & EMS	<p><b>Hillsborough County, Florida.</b> Elections officials had to break up early voting results into smaller pieces to prevent crashing the computer system, and about 150 optical scanners had trouble transmitting results and had to be manually taken to the elections office.<sup>125</sup></p> <p>Elections workers began re-entering nearly 80,000 two-page ballots into the machines Thursday morning. It's expected to take at least ten hours to complete, then another two hours to upload the results into the system.</p> <p>[County Supervisor of Elections ]Johnson blames Premier, the company that makes the optical scan machines. But Premier is blaming the elections office for trying to upload too many votes at once, and for mixing early voting and Election Day ballots.<sup>126</sup></p>
November 2008	Diebold EMS	<p><b>Manatee County, Florida.</b> When officials attempted to upload the vote data from memory cards into the central tabulator, they got an error message that prevented them from tallying the votes. About 2/3 of the county's ballots are affected. Officials say this has not happened before.<sup>127</sup></p> <p>A simple change in one Manatee County race, where a candidate dropped out last week, caused the Premier software program known as GEMS to lock up. That prevented the counting of 46,000 ballots on Tuesday night, Supervisor of Elections Bob Sweat said.<sup>128</sup></p>
November 2008	ES&S Optical Scanner	<p><b>Polk County, North Carolina.</b> Results for the County Board of Elections flip flop twice as the county struggles with a malfunction in the computer reporting system. Rebooting seems to help, but then results flip again. Then winners are declared. County officials speculate that some of the precincts were counted twice by the software.<sup>129</sup></p>

<sup>125</sup> **Voting Glitches Mar Election.** Tampa Bay Online. November 5, 2008. By Christian M. Wade. <http://www2.tbo.com/content/2008/nov/05/na-voting-glitches-mar-election/news-politics/>. Archive: <http://www.votersunite.org/article.asp?id=8149>

<sup>126</sup> **Governor asked to intervene in Hillsborough elections.** My Fox Tampa Bay. November 6, 2008. Archive: <http://www.votersunite.org/article.asp?id=8184>

<sup>127</sup> **Glitch prevents Manatee County from issuing final election results.** Herald Tribune. November 4, 2008. By Christopher O'Donnell. [http://www.heraldtribune.com/article/20081104/BREAKING/811040175?Title=Glitch\\_prevents\\_Manatee\\_County\\_from\\_issuing\\_final\\_election\\_results](http://www.heraldtribune.com/article/20081104/BREAKING/811040175?Title=Glitch_prevents_Manatee_County_from_issuing_final_election_results). Archive: <http://www.votersunite.org/article.asp?id=8142>

<sup>128</sup> **Vote software is under fire.** Herald Tribune. November 6, 2008. By Christopher O'Donnell & Todd Ruger. [http://www.heraldtribune.com/article/20081106/ARTICLE/811060374?Title=Vote\\_software\\_is\\_under\\_fire](http://www.heraldtribune.com/article/20081106/ARTICLE/811060374?Title=Vote_software_is_under_fire). Archive: <http://www.votersunite.org/article.asp?id=8177>

<sup>129</sup> **Revised results give Democrats sweep in county board race.** Tryon Daily Bulletin. November 6, 2008. by Chris Dailey. [http://tryondailybulletin.com/index.php?option=com\\_content&task=view&id=1370&Itemid=192](http://tryondailybulletin.com/index.php?option=com_content&task=view&id=1370&Itemid=192). Archive: <http://www.votersunite.org/article.asp?id=8187>

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Date	Equipment	Place/Description
December 2008	Diebold EMS	<p><b>Humboldt County, California.</b> The election management system (GEMS 1.18.19) deleted the vote data from the first precinct uploaded to the server -- a precinct with 197 ballots. Diebold (Premier) has known about this problem since 2004. County Registrar of Voters Carolyn Crnich explained what Diebold told her. <sup>130</sup></p> <p style="padding-left: 40px;">[S]ometimes when a deck is deleted from the machine due to normal complications, the software also deletes the Deck Zero, which in this case was the vote-by-mail ballots from Precinct 1E-45.</p> <p>The error was discovered by citizens double-checking the ballot totals through the “transparency project” instituted by Crnich.</p>

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<sup>130</sup> **Software glitch yields inaccurate election results.** The Times-Standard. December 5, 2008. by Thadeus Greenon. [http://www.times-standard.com:80/localnews/ci\\_11145349](http://www.times-standard.com:80/localnews/ci_11145349). Archive: <http://www.votersunite.org/article.asp?id=8255>

## Ballot-Scanner Voting System Failures in the News – A Partial List

### Memory Card Malfunctions

Votes tabulated by scanners are stored on memory cards inside the scanners. The data from these memory cards is uploaded to the central tabulator where it is aggregated.

In most of the 22 memory card failures reported in this section, the scanned votes could not be retrieved or the data was incorrect. The ballots had to be rescanned using a new memory card, or precinct tallies from scanner printouts were entered into the central computer by hand.

Other memory card problems were: card readers malfunctions, cards programmed for the wrong precinct, cards set up as test cards which didn't store vote data. In one case, the memory card became full and the scanner then rejected all ballots.

Date	Equipment	Place/Description
November 2004	Diebold AccuVote OS	<p><b>Ripley County, Indiana.</b> During testing, County Clerk Ginger Bradford discovered an error with the optical scan memory cards.<sup>131</sup></p> <p>The memory cards that count the votes in optical scanners had the wrong precinct labels, so the cards were sent back to the company, Bradford said. "They reprogrammed the cards when they got them back, so it sounds maybe like it was a programming error," Bradford said.</p>
November 2004	Diebold AccuVote OS	<p><b>Seminole County, Florida.</b> Memory cards failed in three machines, erasing votes cast in early voting. The problem was discovered when poll workers tried to send voting results via modem to the main elections office.<sup>132</sup></p>
November 2004	Diebold AccuVote OS	<p><b>Volusia County, Florida.</b> Memory cards failed in three machines, erasing 13,244 votes cast in early voting. Officials had to re-feed all the ballots into a new machine.<sup>133</sup></p> <p>[T]he county had the memory cards inspected by Diebold this summer in preparation for the busy election season, said Charlene Gagnier, director of outreach for Volusia's election department.</p> <p>Ion Sancho, the elections supervisor in Leon County, said officials with Diebold told him that the new, higher-capacity memory cards tend to have more glitches than older cards.</p> <p>"It doesn't occur every time," Sancho said. "The most difficult problem to solve with any piece of technology is an intermittent anomaly."</p>

<sup>131</sup> **3 more counties report errors.** Palladium Item. November 16, 2004. by Pam Tharp. Archive: <http://www.votersunite.org/article.asp?id=3862>.

<sup>132</sup> **Computer glitches slow Volusia results.** Orlando Sentinel. November 4, 2004. By Kevin P. Connolly, Staff Writer. Archive: <http://www.votersunite.org/article.asp?id=3694>

<sup>133</sup> **Computer glitches slow Volusia results.** Orlando Sentinel. November 4, 2004. By Kevin P. Connolly, Staff Writer. Archive: <http://www.votersunite.org/article.asp?id=3694>

## Ballot-Scanner Voting System Failures in the News – A Partial List

Date	Equipment	Place/Description
March 2006	ES&S Optical Scanner	<p><b>Summit County, Ohio.</b> County officials are threatening legal action against ES&amp;S if the company doesn't cooperate more with the county.<sup>134</sup></p> <p>Complaining that memory cards for the county's Optical-Scan voting system have been defective in several shipments, and several new problems the county is having with ES&amp;S, officials said ES&amp;S' attitude has become uncooperative, like "pulling teeth."</p>
March 2006	ES&S Optical Scanner	<p><b>Summit County, Ohio.</b> Memory Card problems in Akron cited as same as in North Carolina.<sup>135</sup></p> <p>1,000 memory cards supplied by ES&amp;S were defective. ES&amp;S blamed the problem on bad batteries in about 1/3 of the cards. Summit County Board of Elections director Bryan Williams described the problem as "read-back errors, not a battery issue." For 2/3 of shipment in question. ES&amp;S claims batteries should last between 3 and 5 years and blamed faulty cards on a subcontractor. Officials say they will test all replacements.</p>
April 2006	ES&S Optical Scanner	<p><b>Summit County, Ohio.</b> New machines are being deployed for May 2 elections and officials are concerned about memory cards working. Alternative plans in place and county officials will conduct hand counts in selected precincts to compare against machine counts.<sup>136</sup></p> <p>Failures are expected and contingency plans are in place. ES&amp;S Account Manager Jerry Hayek told Election Board Commissioners to expect an error rate in all areas is 1%. ES&amp;S is paying \$350 a day to 19 U of Akron students to go through planning and work all election day to help with problems. ES&amp;S will provide 48 spare memory cards.</p>
November 2006	Diebold AccuVote OS	<p><b>Anchorage, Alaska.</b> Memory cards malfunctioned.<sup>137</sup></p> <p>A handful of memory cards malfunctioned and had to be replaced, [Division of Elections director Whitney] Brewster said, but that happens every election.</p>
November 2006	Hart InterCivic eScan	<p><b>Lancaster County, Pennsylvania.</b> A third of the county's 232 polling stations experienced malfunctions on the Hart InterCivic eScan ballot scanners. In many cases, the memory cards being used were test cards, not set up to accept election results.<sup>138</sup></p>

<sup>134</sup> **Election officials threaten legal action against supplier** Akron Beacon Journal, March 22, 2006 by Lisa Abraham. Story archived at <http://www.ohio.com/mld/ohio/living/community/14157502.htm>

<sup>135</sup> **Voting system's troubles spread** Akron Beacon Journal, March 16, 2006 by Lisa A. Abraham. Story archived at <http://www.ohio.com/mld/ohio/news/14111596.htm>

<sup>136</sup> **Election officials concerned about new machines working** The Akron Beacon Journal, April 25, 2006 by Lisa A. Abraham. <http://www.ohio.com/mld/beaconjournal/14426268.htm>

<sup>137</sup> **Elections head reports few glitches.** Anchorage Daily News. November 9, 2006, The Associated Press. Archive: <http://www.votersunite.org/article.asp?id=6833>

## Ballot-Scanner Voting System Failures in the News – A Partial List

Date	Equipment	Place/Description
November 2006	Diebold AccuVote OS	<b>Mendocino County, California.</b> Diebold memory cards were corrupted, losing votes counted on optical scanners. Ballots will be recounted in the canvass process. <sup>139</sup>
June 2007	Hart InterCivic eScan Precinct Scanner	<b>Bedford County, Pennsylvania.</b> Memory cards became full and scanners refused to accept any more ballots. <sup>140</sup>  [Peg Koenig, director of elections in Bedford County] said the Northern Bedford County School District had a massive write-in campaign that was much larger than expected. She said the memory cards in the e-scan voting machines became so full that the machines spit the ballots out.
November 2007	Diebold memory cards	<b>Florida.</b> Diebold memory cards used in precinct optical scanners fail at rates as high as 9.2% and 9.4% in some counties. Failures have caused vote losses in the past. Diebold will inspect all the machines in Florida, but only those in Florida if they do not receive complaints from other states. <sup>141</sup>
January 2008	Diebold AccuVote OS	<b>Hanover, Exeter, Nashua, and Manchester Counties, New Hampshire.</b> Problems with the Premier (Diebold) optical scan machines reported by the officials in all four counties. Break down of the visor that guides write-in votes into the right bin, and memory card failures. <sup>142</sup>
January 2008	Diebold AccuVote OSX	<b>Sarasota County, Florida.</b> Six optical scanners quit working and had to be replaced. Some machines had problems with the memory card, while others had a faulty scanner. <sup>143</sup>  “They were all tested before and for various reasons they just went bad,” said Kathy Dent, Sarasota County supervisor of elections.

<sup>138</sup> **County to investigate voting problems: Troublesome machines hindered election.** Intelligencer Journal. November 9, 2006. By Dave Pidgeon.

Archive: <http://www.votersunite.org/article.asp?id=6798>

<sup>139</sup> **County clerk reports memory card problem.** The Daily Journal. November 10, 2006. By Katie Mintz. Archive: <http://www.votersunite.org/article.asp?id=6845>

<sup>140</sup> **Bedford County Republican Primary Votes To Be Recounted.** WJAC-TV.com. June 19, 2007. <http://www.wjactv.com/news/13530242/detail.html>.

Archive: <http://www.votersunite.org/article.asp?id=7147>

<sup>141</sup> **Survey contradicts vote machine firm’s failure rate claim.** Daytona Beach News-Journal. November 3, 2007. By M.C. Moewe.

Archive: <http://www.votersunite.org/article.asp?id=7284>

<sup>142</sup> **Diebold Voting Machine Failures Found Across State During New Hampshire Primary.** BradBlog.com. January 12, 2008. By Brad Friedman.

<http://www.bradblog.com/?p=5553>

<sup>143</sup> **AT THE POLLS: Problems with voting machines; reaction mixed on tax amendment.** Herald Tribune. January 29, 2009. Staff Reports.

<http://www.heraldtribune.com/article/20080129/BREAKING/63466273/-1/newssitemap>. Archive: <http://www.votersunite.org/article.asp?id=7445>



## Ballot-Scanner Voting System Failures in the News – A Partial List

Date	Equipment	Place/Description
March 2008	ES&S M100 Precinct Scanner	<p><b>New Mexico.</b> Problem-prone memory cards used in voting machines across New Mexico are being recalled to make certain they're working properly in preparation for the June primary election.<sup>144</sup></p> <p>The cards hold ballot information and are necessary for vote tabulators to operate. However, a number of county clerks have reported card failures and they have been forced to use backup cards to keep voting machines in service during elections. Voters feed their paper ballots into the tabulators at polling places.</p> <p>ES&amp;S is New Mexico's sole supplier of the voting machines and their memory cards.</p>
May 2008	Diebold AccuVote OS	<p><b>New Milford, Connecticut.</b> A memory card malfunctioned in New Milford. The nearest replacement card was three hours away, so the 426 optical scan ballots were hand counted.<sup>145</sup></p>
June 2008	ES&S EMS (M100)	<p><b>Curry County, New Mexico.</b> Memory card problems caused results to be reported incorrectly. After discovering suspect results, software technicians evaluated the device that reads memory cards.<sup>146</sup></p> <p>A software glitch, [County Election Manager Coni Jo ] Lyman said, caused precinct totals in an early voting location to be counted more than once. The problem with a memory card used to store results was difficult to identify, Lyman said, because not every precinct total doubled.</p> <p>"One of the early voting locations, it has put sporadic precincts in twice," Lyman said. "It would accept results, but said it didn't scan. You would re-scan, and it would accept that too."</p>
November 2008	Diebold AccuVote OS	<p><b>Cumberland County, Maine.</b> A memory card malfunctioned in one of the three tabulation machines.<sup>147</sup></p> <p>Scarborough processed 6,000 absentee ballots by Monday evening. Because election officials were unsure which machines had processed the absentee ballots, they decided to recount all of the ballots to be safe.</p>
November 2008	Diebold AccuVote OS	<p><b>Miami County, Ohio.</b> A memory card failed, halting the scanning of ballots and leaving the officials with 10 boxes of ballots that had to be rescanned.<sup>148</sup></p> <p>Extra scanners from Premier Elections office in Montgomery County had to be brought in because those used to count this election's vote could not be used for another count until the election results are certified, elections Director Steve Quillen said.</p>

<sup>144</sup> **New Mexico to check troubled voting equipment.** March 21, 2008. Associated Press. Archive: <http://www.votersunite.org/article.asp?id=7610>

<sup>145</sup> **Voting problems: Count every vote, but not by hand.** The News-Times, May 30, 2008. Archive: <http://www.votersunite.org/article.asp?id=7727>

<sup>146</sup> **Software glitch found, election results released.** Clovis News Journal. June 5, 2008. By Kevin Wilson. <http://www.cnjonline.com/news/tuesday-28438-election-county.html>. Archive: <http://www.votersunite.org/article.asp?id=7736>

<sup>147</sup> **Broken voting machine delays Scarborough results.** Keep Me Current. November 4, 2008. By Al Edwards. Archive: <http://www.votersunite.org/article.asp?id=8145>

<sup>148</sup> **Miami County set to recount 7,500 paper ballots.** Dayton Daily News. November 5, 2008. By Nancy Bowman, Staff Writer. <http://www.daytondailynews.com/n/content/oh/story/news/local/2008/11/05/ddn110508miamiwoesweb.html>. Archive: <http://www.votersunite.org/article.asp?id=8153>

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Date	Equipment	Place/Description
November 2008	Sequoia Optical Scanner	<p><b>Palm Beach County, Florida.</b> Problems with four memory cartridges from the optical scanners have prevented county election officials from posting complete unofficial results of Tuesday’s race. The bad cartridges represent thousands of votes.<sup>149</sup></p> <p>While tests were still being done, Assistant County Administrator Brad Merriman said it is likely the ballots themselves will be run through tabulating machines later today.</p>
November 2008	ES&S M100 Optical Scanner	<p><b>Rockingham County, North Carolina.</b> The central tabulator failed to read the memory cards from the optical scanners at five of the six one-stop (early voting) sites.<sup>150</sup></p> <p>“The system read the results from one of the sites, but it could not read the other five,” said Tina Cardwell, deputy director of RCBOE. “We still don’t know what caused the problem.”</p>
November 2008	Diebold AccuVote OS	<p><b>Scott County, Iowa.</b> Two memory card failures delayed the tabulation of results.<sup>151</sup></p> <p>The memory cards held the results of 11,627 ballots cast in early voting. Election officials turned to printout tapes of the summary reports to be manually entered into the computer system, but the software required more detailed and time-consuming precinct-by-precinct information to be entered.</p>
February 2009	Diebold AccuVote OS	<p><b>Walworth County, Wisconsin.</b> A problem with an optical scanner memory card caused a delay in election results reporting Tuesday night for the village of Darien. At the end of the day, another memory card problem prevented poll workers from sending in the results electronically.<sup>152</sup></p> <p>Memory card problems are not common, but they happen often [enough] that the clerk’s office staff know how to deal with them, [County Clerk Kim] Bushey said.</p>

<sup>149</sup> **Palm Beach County vote results still incomplete.** Palm Beach Post. November 5, 2008. By Jane Musgrave, Staff Writer.

[http://www.palmbeachpost.com/localnews/content/local\\_news/epaper/2008/11/05/1105votecount.html](http://www.palmbeachpost.com/localnews/content/local_news/epaper/2008/11/05/1105votecount.html).

Archive: <http://www.votersunite.org/article.asp?id=8164>

<sup>150</sup> **Voting glitch in Rockingham County.** GoDanRiver.com. November 5, 2008. By Steve Lawson. Archive: <http://www.votersunite.org/article.asp?id=8158>

<sup>151</sup> **Computer glitch slows Scott County vote reporting.** Quad-City Times. November 6, 2008. By Kurt Allemeier.

Archive: <http://www.votersunite.org/article.asp?id=8180>

<sup>152</sup> **Voting machine problem causes delay.** GazetteXtra.com. February 18, 2009. By Gazette Staff. <http://gazettextra.com/news/2009/feb/18/voting-machine-problem-causes-delay/>. Archive: <http://www.votersunite.org/article.asp?id=8320>

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### Mark-Detection Failures

Loss of sensor calibration, inadequate maintenance, and other factors can affect the reading of votes marked on paper ballots. In the five malfunctions described in this section, scanners failed to read certain types of ink, light marks, and pencil lead.

Date	Equipment	Place/Description
November 2002	Sequoia Optech 4C-400	<p><b>Snohomish County, Washington.</b> Optical scanners failed to read 21,000 votes on absentee ballots because two lights that read the ballots were worn out. <sup>153</sup></p> <p>When the lights wear out, Sequoia determined, they stop reading some types of ink.</p> <p>... Snohomish County was the first jurisdiction to catch the problem, said Sheree Noell, a sales executive for Sequoia.</p> <p>The problem came to light this winter when the Snohomish County Republican Party pointed out that up to 25 percent fewer votes than voters were counted in some county legislative races. Two recounts showed more than 21,000 votes were missed in the county’s legislative races alone, although none of the corrected counts changed the election results.</p> <p>The Snohomish County Auditor’s Office called Sequoia to analyze the machines.</p> <p>How long have they been failing to detect votes?</p> <p>“It’s just something that we’ve been observing, and we’ve been thinking <b>for a while</b> that the undercounts were getting too high,” said Frauna Hogle, chairwoman of the Snohomish County GOP.</p>
March 2004	Sequoia Optech Optical Scan	<p><b>Napa County, California.</b> The machines failed to record votes marked with dye-based ink. The error was found during a manual recount used to verify accuracy. After counting 60 ballots, officials discovered that the number of votes didn’t match the votes recorded by the machines.</p> <p>Prior to the election, a Sequoia technician ran test ballots through the machine to calibrate its reading sensitivity, but failed to test for gel ink. <sup>154</sup></p> <p>[Napa Registrar of Voters John] Tuteur said the machine dropped 6,692 votes out of a total of 468,001 votes cast on the more than 13,000 absentee ballots. He added that there was no pattern to the dropped votes: They spanned federal, state and county races and affected various candidates and ballot measures.<sup>155</sup></p>

<sup>153</sup> **County’s voting troubles spur changes nationwide.** Seattle Times. January 29, 2003 by Emily Heffter, Times Snohomish County bureau.

Archive: <http://www.votersunite.org/article.asp?id=5276>

<sup>154</sup> **Lost E-Votes Could Flip Napa Race.** Wired News; March 15, 2004; By Kim Zetter. <http://www.wired.com/news/evote/0,2645,62655,00.html>

<sup>155</sup> **E-Vote Snafu in California County.** Wired News; March 18, 2004; By Kim Zetter. <http://www.wired.com/news/evote/0,2645,62721,00.html>

## Ballot-Scanner Voting System Failures in the News – A Partial List

Date	Equipment	Place/Description
April 2004	Diebold AccuVote OS	<p><b>Uxbridge, Massachusetts.</b> The machine failed to read 171 ballots because they were completed with the wrong kind of lead. Recount of the selectman race overturned the election. Because other candidates did not file for a recount in time, the other races cannot legally be recounted. Thus the other races remain in question.<sup>156</sup></p> <p>The final decision was reached seven weeks after the election, after two hand recounts.</p>
August 2004	ES&S Optech	<p><b>Muskegon, Michigan.</b> Optical scan machines failed to detect 2% of the votes for Township Clerk because the marks were too light. Originally, the machines reported that challenger Kris Tabler had lost to incumbent Jim Nielsen, 791-786. The canvassing process, which compares the precinct reports to the results produced by the ballot-counting machines, found the same result. Tabler paid for a recount in all seven township precincts, and the result reversed the outcome.<sup>157</sup></p> <p>Tabler won the election over Nielsen by two votes, 804-802. Jerry Young, the candidate who finished a distant third, received 258 votes in the recount.</p> <p>Overall, the recount revealed the existence of 39 more votes cast in the clerk’s race than the original count did.</p> <p>... Obviously the canvassers, counting by hand, were able to read some ballots that the computer “optical scan” machines didn’t pick up, said Tom Higgins, chairman of the county board of canvassers. It’s also possible that the machines simply read some ballots wrong.</p>
November 2006	ES&S M100 Precinct Scanner	<p><b>Bannock County, Idaho.</b> The ballot scanners failed to recognize the ink in the pens recommended by ES&amp;S.<sup>158</sup></p> <p>Once the problem was discovered, the thousands of unread ballots were handed over to a resolution board, which included a Republican and a Democratic representative, Hurst said. They marked over each ink spot with a blue highlighter allowing the voter’s original mark to show through and fed it through the machines again, Hurst said.</p> <p>One scanner broke down, leaving vote counters with just one machine to handle all the county’s ballots.</p>

<sup>156</sup> **Town slated to hold second recount.** Milford Daily News; Wednesday, June 2, 2004; By Sara Withee, News Staff Writer  
<http://www.milforddailynews.com/localRegional/view.bg?articleid=49152>

<sup>157</sup> **Election turns around when inspectors ‘see the light’.** Muskegon Chronicle. September 04, 2004. By Steve Gunn and Lynn Moore, Chronicle Staff Writers.  
<http://www.mlive.com/news/muchronicle/index.ssf?/base/news-5/109429297496130.xml>

<sup>158</sup> **Dems critical of Idaho election officials.** Trib.com. November 9, 2006. By Rebecca Boone. Associated Press writer.  
<http://www.casperstartribune.net/articles/2006/11/09/news/regional/3e8994cf740c1eee87257220007c89e1.txt>  
 Archive: <http://www.votersunite.org/article.asp?id=6856>

## Ballot-Scanner Voting System Failures in the News – A Partial List

### Misprinted Ballots

The 13 items in this section describe the failures of vendors to print ballots properly. In most cases, the text was printed incorrectly and new ballots had to be printed. In some cases, coding on the ballots prevented the scanners from reading the ballots.

Date	Equipment	Place/Description
May 2004	ES&S Printer	<b>St. Francis County, Arkansas.</b> ES&S, the company in charge of printing ballots for the county did not send them in time and delayed early voting by at least a week, according to Judy Armstrong, the county's election coordinator. <sup>159</sup>
October 2004	Sequoia Printer	<b>Adams County, Colorado.</b> Sequoia Voting Systems failed to print 13,000 absentee ballots ordered for Denver voters. <sup>160</sup>  Residents wanted to know where their absentee ballots were... Officials got suspicious, investigated, and discovered Monday that the California printer never printed the first batch of ballots, election commissioner Susan Rogers said. They are being printed now, though, and will be on their way to voters soon. "If people are leaving town or need one right away, they need to contact us," Rogers said. A phone call to Sequoia Voting Systems, the Oakland-based contractor that handles the printing, was not returned Tuesday afternoon.
October 2004	ES&S Printer	<b>Cass County, North Dakota.</b> ES&S printed 120,000 ballots with incorrect text. Both "yes" and "no" would approve a constitutional amendment banning gay marriage. Bar codes used for alignment were printed incorrectly, too. ES&S is responsible and will pay for reprinting. <sup>161</sup>
November 2005	ES&S M100 Precinct Scanner	<b>Sandusky County, Ohio.</b> Optical scanners used by the Sandusky County Board of Elections refused to accept hundreds of ballots because of a printing error. <sup>162</sup>

<sup>159</sup> **Early voting runs into delays in 4 counties; suit filed in 1.** Arkansas Democrat-Gazette. May 7, 2004. By Stephen Deere.

<sup>160</sup> **Absentee ballots 'lost' at printer.** Rocky Mountain News. October 20, 2004. By Gabrielle Crist.

[http://rockymountainnews.com/drmn/election/article/0,1299,DRMN\\_36\\_3267080,00.html](http://rockymountainnews.com/drmn/election/article/0,1299,DRMN_36_3267080,00.html)

<sup>161</sup> **Ballots to get reprint.** The Forum. October 22, 2004. By Andrea Domaskin. Archive: <http://www.votersunite.org/article.asp?id=3337>

<sup>162</sup> **State plans to investigate voting chaos.** Toledo Blade. November 10, 2005. By Christopher D. Kirkpatrick.

<http://toledoblade.com/apps/pbcs.dll/article?AID=/20051110/NEWS09/511100477>. Archive: <http://www.votersunite.org/article.asp?id=6308>

## Ballot-Scanner Voting System Failures in the News – A Partial List

Date	Equipment	Place/Description
April 2006	ES&S Printer	<b>Porter County, Indiana.</b> Some 80,000 primary election ballots bear faulty instructions and ES&S is replacing them. <sup>163</sup>
May 2006	ES&S Printer	<b>Carroll County, Arkansas.</b> ES&S provided incorrect ballot proofs. <p>“It’s like they threw a muffin in the air and let the pieces fall wherever,” [Carroll County Election Commissioner Levi Phillips] said of the ballot errors.</p> <p>All justice of the peace and constable races were lumped together and there was a disregard for ballot positions in other races.</p> <p>The county voted to have the ballots printed by a local printer.</p>
May 2006	ES&S Printer	<b>Clark County, Arkansas.</b> ES&S failed to print paper ballots on time, so local officials printed ballots on an office printer, and copied them onto standard paper which cannot be run through the scanners. <sup>164</sup> So ballots had to be counted by hand. <p>Some ballots had to be printed on plain paper when ballots were not received in time for early voting. County Clerk Rhonda Cole said Election Systems and Software, the company responsible for programming the electronic voting machines, was supposed to have ballots printed in time for early voting. The county did not have ballots until late in the day on May 8, the first day of voting. The ballot information was e-mailed to Cole, who printed the ballots and made copies on an ordinary copy machine. Since the ballots are not coded individually, they cannot be counted through the scanning machine, [Karen] Wieman [coordinator of the Clark County Election Commission] said.</p>
October 2006	ES&S Printer	<b>Summit County, Ohio.</b> <sup>165</sup> A printer certified by ES&S sent 22,000 misprinted ballots to the county. Already late, the delay made absentee voters wait even longer for their ballots. <p>When the ballots arrived at the Summit County Board of Elections on Thursday, staff members discovered the second page was fraught with typographical errors.</p> <p>Words are running together and their letters are spaced incorrectly, making the ballot hard to read, said board Deputy Director Marijean Donofrio.</p>

<sup>163</sup> **The mystery oval** The NWI Times/ The Times April 25, 2006 by Matthew Van Dusen. Story archived at [http://www.thetimesonline.com/articles/2006/04/25/news/porter\\_county/6d4d52d58e4f7ad28625715a007b43a6.txt](http://www.thetimesonline.com/articles/2006/04/25/news/porter_county/6d4d52d58e4f7ad28625715a007b43a6.txt)

<sup>164</sup> **Ballot problem could prolong count tonight** The Daily Siftings Herald, May 23, 2006 by Donna Hilton. Story archived at <http://www.siftingsherald.com/articles/2006/05/23/news/news1.txt>

<sup>165</sup> **Summit absentee ballots delayed. Errors mean all 22,000 have to be printed again before they can be sent.** Beacon Journal. October 20, 2006. By Lisa A. Abraham, staff writer. Archive: <http://www.votersunite.org/article.asp?id=6650>

## Ballot-Scanner Voting System Failures in the News – A Partial List

Date	Equipment	Place/Description
November 2006	ES&S M650 Central Scanner	<p><b>Crawford County, Arkansas.</b> ES&amp;S provided the ballot printer with the wrong format, and the software provided by ES&amp;S for the scanners wouldn't read the ballots, which had to be counted by hand.<sup>166</sup></p> <p>[County Clerk Patti] Hill and commission members said they have tried repeatedly to contact ES&amp;S officials in the wake of the election and have so far not received any response to messages left on company answering machines.<sup>167</sup></p>
November 2006	Sequoia 400C	<p><b>Denver, Colorado.</b> Sequoia misprinted the barcodes that identify precincts on absentee ballots, so the county had to sort 70,000 ballots into the 23 different ballot styles. <sup>168</sup></p> <p>Sequoia Voting Systems misprinted the bar codes and mailed out the absentee ballots directly to voters under a contract with Denver. The Denver Election Commission learned that the Sequoia scanner could not sort ballots when it tried a test count Oct. 19, election commission executive director John Gaydeski said Monday. Sequoia's vice president of communications, Michelle Shafer, did not return four calls and pages seeking comment.</p> <p>When they scanned the sorted ballots, one of the two scanners broke down and required repairs.</p>
October 2008	Diebold AccuVote OS	<p><b>Gwinnett County, Georgia.</b> The outline of the oval on the absentee ballots is too thick and causes the scanners to tally incorrectly. The 10,000 returned ballots will be tallied by hand. The county is reprinting 19,000 ballots to send out for new requests.<sup>169</sup></p>
November 2008	ES&S M650 Central Count Scanner	<p><b>Carroll County, Arkansas.</b> A ballot-printing problem cause the scanner to be unable to tabulate the votes on absentee ballots.<sup>170</sup></p> <p>According to Election Coordinator Cathy Ellis, an inked black block in the upper left hand corner of some paper ballots did not contain enough ink to satisfy the counting machine.</p> <p>When she called Election Systems and Software (ES&amp;S), the company that provides the electronic voting machines, software, and printed paper ballots, she said they immediately suggested she try filling in the box with a black marker.</p>

<sup>166</sup> **Electronic voting off to rocky start.** Press Argus-Courier, November 13, 2006. by MELINDA W. BIGELOW.

<http://www.pressargus.com/articles/2006/11/13/news/news01.txt>. Archive: <http://www.votersunite.org/article.asp?id=6859>

<sup>167</sup> **Panel Seeks Recount On Ballots.** Times Record. November 14, 2006. By Rusty Garrett. <http://www.swtimes.com/articles/2006/11/14/news/news01.txt>. Archive: <http://www.votersunite.org/article.asp?id=6870>

<sup>168</sup> **Big bar code backfire: Misprint blamed for days of hand-sorting absentee ballots.** Rocky Mountain News. November 14, 2006. By Ann Imse. [http://www.rockymountainnews.com/drmn/elections/article/0,2808,DRMN\\_24736\\_5142404,00.html](http://www.rockymountainnews.com/drmn/elections/article/0,2808,DRMN_24736_5142404,00.html). Archive: <http://www.votersunite.org/article.asp?id=6867>

<sup>169</sup> **Early voting glitches in 2 counties in Ga., Tenn.** USA Today. October 24, 2008. Associated Press. [http://www.usatoday.com/news/politics/election2008/2008-10-24-early-voting-problems\\_N.htm](http://www.usatoday.com/news/politics/election2008/2008-10-24-early-voting-problems_N.htm). Archive: <http://www.votersunite.org/article.asp?id=8042>

## Ballot-Scanner Voting System Failures in the News – A Partial List

Date	Equipment	Place/Description
November 2008	ES&S Optical Scanner	<p><b>Madison County, Indiana.</b> The optical scanners were unable to count over half of the 12,000 early-voting ballots.<sup>171</sup></p> <p>As it turns out, the coding on that portion of the early ballots was in the wrong position on the paper, tripping up the machines.</p> <p>An official from Omaha-based Election Systems &amp; Software, which provided the counting system, seemed to acknowledge that the company had sent the county ballots that wouldn't work.</p>

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<sup>170</sup> **Williams, Link ousted in general election.** Carroll County News. November 6, 2008. by Anna Mathews. <http://www.carrollconews.com/story/1475931.html>.

Archive: <http://www.votersunite.org/article.asp?id=8183>

<sup>171</sup> **EDITORIAL II: Ballot-counting problem should have been avoided.** The Herald Bulletin. November 4, 2004.

[http://www.theheraldbulletin.com/opinion/local\\_story\\_309220039.html?keyword=topstory](http://www.theheraldbulletin.com/opinion/local_story_309220039.html?keyword=topstory). Archive: <http://www.votersunite.org/article.asp?id=8146>



## Ballot-Scanner Voting System Failures in the News – A Partial List

### Miscellaneous Operational Malfunctions

The 31 items in this section report a variety of operation malfunctions, including mechanical failures, ballot jams, automatic-feed failures, failure to connect by modem to the central tabulator, as well as many break downs that were not explained in the news story.

Date	Equipment	Place/Description
November 1998	ES&S M100 Optical Scanner	<p><b>Hawaii.</b> Machines malfunctioned on election night, but a partial manual audit failed to find irregularities. Later, a mechanical test of the machine also showed no problems. A second mechanical test found the problem.<sup>172</sup></p> <p>Tom Eschberger, a vice president of Election Systems &amp; Software, which provided the computers for the election, said a test conducted soon after the election on the software and the machine that malfunctioned in a Waianae precinct showed the machine worked normally.</p> <p>He said the company did not know about the problem with the machine until after the Supreme Court-ordered recount, when <b>a second test on the same machine detected the malfunction</b>. He said the company is still investigating.</p> <p>The faulty ES&amp;S machines forced that state’s first-ever recount.<sup>173</sup></p> <p>March 1999 update: From an official statement about the problems in the previous November election.<sup>174</sup></p> <p>There was an obvious problem with seven voting units from Election Systems and Software -- out of 361 units used on Election Day.</p> <ul style="list-style-type: none"> <li>◆ Five units had lens occlusion</li> <li>◆ One unit had a defective cable</li> <li>◆ One unit had a defective “read head”</li> </ul>
November 1998	ES&S Optical Scanner	<p><b>Rhode Island.</b> <sup>175</sup></p> <p>In Rhode Island, primary election results were delayed until 11 a.m. the next day because of a computer glitch in its new \$1 million system.</p>

<sup>172</sup> **Voting checks failed to detect fault twice: A flawed ballot counter passed a manual check and a mechanical test**  
 Star-Bulletin; Wednesday, February 3, 1999; By Craig Gima. <http://starbulletin.com/1999/02/03/news/story1.html>

<sup>173</sup> **Firm admits errors in counting votes for Hawaii, Venezuela.** The Star Bulletin; June 7, 2000; by Jessica Fargen, Associated Press.  
<http://starbulletin.com/2000/06/07/news/story3.html>

<sup>174</sup> Statement by Marion Higa, State Auditor, and Chair of Elections Oversight Committee. March 15, 1999; [www.state.hi.us/elections/review98.html](http://www.state.hi.us/elections/review98.html)

<sup>175</sup> **Who Counts The Votes?** By Gary Ashwill and Chris Kromm. <http://www.southernstudies.org/reports/votingmachines-new.htm>

## Ballot-Scanner Voting System Failures in the News – A Partial List

Date	Equipment	Place/Description
November 2004	ES&S M115 Optical Scanner	<b>Greene and Harrison Counties, Iowa.</b> Optical counties broke down in both counties. <sup>176</sup> Harrison County got its machine fixed shortly after midnight and resumed counting.
November 2004	ES&S Optical Scanner	<b>Marion County, Indiana.</b> One of the precinct scanners at an Indianapolis precinct broke down, but was repaired. <sup>177</sup>  Elsewhere in Marion County, some optical scanners were not working. Still, officials said that did not prevent people from voting, as they were still able to fill out paper ballots that would be fed into the machines when they were operating.
November 2004	ES&S Optical Scanner	<b>Sacramento County, California.</b> Officials said they had sporadic trouble with the new scanning machines being used for the first time. <sup>178</sup>  By late Tuesday, nine of the 712 machines used countywide had to be replaced because they didn't work, officials said.
November 2004	ES&S Optical Scanner	<b>Scott County, Iowa.</b> Optical scanners broke down. <sup>179</sup>  Election officials there resorted to backup machines, which required workers to manually feed in about 23,000 ballots one by one.
November 2005	ES&S M100 Precinct Scanner & Unity EMS	<b>Clermont County, Ohio.</b> Perforations at the top of a new ballot design jammed the counters, and some ballots were not cut properly, so they had to be fed through the machines more than once. <sup>180</sup>  New software also gave out inaccurate reports and had to be corrected.  Several write-in candidates in more than half of the county's 200 precincts had to be counted by hand, slowing down the process, elections officials said.

<sup>176</sup> **Broken vote-counting machines, MoveOn draw complaints in Iowa.** Des Moines Register. November 3, 2004. By Lynn Campbell. Archive: <http://www.votersunite.org/article.asp?id=3825>

<sup>177</sup> **Indiana voters turn out early despite rain.** wthr.com. November 2, 2004. Associated Press. <http://www.wthr.com/Global/story.asp?S=2512161&nav=9TaiSfal>. Archive: <http://www.votersunite.org/article.asp?id=3629>

<sup>178</sup> **Long lines, no ballots for some.** Sacramento Bee. November 3, 2004. By Will Evans and Christina Jewett, Bee Staff Writers. Archive: <http://www.votersunite.org/article.asp?id=3883>

<sup>179</sup> **Broken vote-counting machines, MoveOn draw complaints in Iowa.** Des Moines Register. November 3, 2004. By Lynn Campbell. Archive: <http://www.votersunite.org/article.asp?id=3825>

<sup>180</sup> **Multiple Voting Glitches Hold Up Clermont Results.** ChannelCincinnati. November 9, 2005. <http://www.wlwt.com/politics/5286456/detail.html>. Archive: <http://www.votersunite.org/article.asp?id=6289>

## Ballot-Scanner Voting System Failures in the News – A Partial List

Date	Equipment	Place/Description
November 2005	ES&S M650 Central Scanner	<p><b>Matagorda County, Texas.</b> The county's new ES&amp;S optical scanner quit working after processing early ballots.<sup>181</sup></p> <p style="padding-left: 40px;">Out of the county's 12 election precincts, the early vote was the only one counted on the new machine before it quit working Tuesday night.</p> <p>The technician wasn't able to fix it, so ES&amp;S had to fly a new one in for the county to certify and use.</p>
November 2005	AVS WinScan	<p><b>Spotsylvania, Virginia.</b><sup>182</sup> The ballot counting machines weren't working properly, and some ballots had to be counted by hand.</p> <p style="padding-left: 40px;">A faulty memory pack on the system at Wilderness was rejecting ballots with even the slightest fray or fold in the paper, said Shirley Boggs, Spotsylvania's registrar.</p>
March 2006	Sequoia Insight Optical Scanner	<p><b>Cook County, Illinois.</b> Equipment failed, long hours of waiting for voters, voters turned away.<sup>183</sup></p> <p style="padding-left: 40px;">The oversized optical-scan paper ballots jammed in some machines, while audio equipment for blind voters was not installed or did not work in other places... In suburban Cook County, election officials said about 10 optical scanners and 15 touch-screen machines were swapped out during the day ... City officials still were counting their equipment failures but said at least two machines needed to be replaced and 30 to 40 needed repairs during the day. In suburban Summit, election officials confirmed that at least a dozen voters were turned away from the polls in one precinct.</p> <p>414 Memory Cartridges Missing <sup>184</sup></p> <p style="padding-left: 40px;">At noon Wednesday, Chicago was missing 252 memory cartridges, 93 from machines that scanned in paper ballots and 159 from touch screens. County officials couldn't find 162 memory cartridges from suburban precincts--68 from optical-scanning machines and 94 for touch-screen balloting.</p>

<sup>181</sup> **New voting machine malfunctions.** Bay City Tribune, November 9, 2005. By Erin Phillips. Archive: <http://www.votersunite.org/article.asp?id=6296>

<sup>182</sup> **Machine fails to tally vote in precinct.** Fredericksburg Free Lance-Star. November 10, 2005. By Meghann Cotter. <http://fredericksburg.com/News/FLS/2005/112005/11102005/144632>. Archive: <http://www.votersunite.org/article.asp?id=6303>

<sup>183</sup> **Machine Woes Slow Vote-Counting in Illinois.** Washington Post, March 22, 2006. Staff writers. <http://www.washingtonpost.com/wp-dyn/content/article/2006/03/22/AR2006032202171.html>

<sup>184</sup> **New machines, poor training slowed count.** Chicago Tribune. Mar 23, 2006. James Janega, John McCormick and David Kidwell, Tribune staff reporters <http://www.chicagotribune.com/technology/chi-0603230212mar23,1,353880.story?page=1&coll=chi-technology-hed>

## Ballot-Scanner Voting System Failures in the News – A Partial List

Date	Equipment	Place/Description
May 2006	ES&S Optical Scanner	<p><b>Benton County, Arkansas.</b> Optical scanners jammed and the precinct scanners, which are supposed to warn voters of overvotes so they can correct the error, didn't warn them.<sup>185</sup></p> <p>[Jim McCarthy, Benton County election coordinator] reported that there were several voters who marked more than one box on their paper ballots for different races. He said in those cases election officials did not count the vote for that particular race if more than one box was filled.</p>
November 2006	ES&S M100 Precinct Scanner	<p><b>Adams County, Pennsylvania.</b> Undefined problems with the ES&amp;S M100 scanners were reported in several precincts. The county is investigating.<sup>186</sup></p>
November 2006	Sequoia Insight Scanner	<p><b>Alameda County, California.</b> Nearly 100 of the more than 800 Sequoia Insight ballot scanners jammed at polling sites.<sup>187</sup></p> <p>As late as 4 p.m., some poll workers still were trying to wrest ballots free of the machines and get them working again, said Guy Ashley, spokesman for the Alameda County registrar.</p> <p>The problem was the flawed ballot printing.<sup>188</sup></p> <p>The ballots featured a perforated strip at the top with a voter number that poll workers were to tear off and hand to the voter before inserting the rest of the ballot in the optical scanners. But the perforations were poor to non-existent, according to poll workers and county elections officials, leaving a ragged edge that jammed in the scanners.</p>

<sup>185</sup> **E Voting Zaps Quick Totals** The Morning News, May 23, 2006 (no byline/The Morning News and The Associated Press. Story archived at <http://www.nwaonline.net/articles/2006/05/24/news/01azelection.txt>

**Election-day problems many** The Benton County Daily Record, May 24, 2006 by Jennifer Turner. Story archived at <http://nwanews.com/bcdr/News/35138/>

<sup>186</sup> **Woman: Machine calls Santorum a democrat.** York Daily Record. November 7, 2006. By Brent Burkey. Archive: <http://www.votersunite.org/article.asp?id=6768>

<sup>187</sup> **Some East Bay voters might have used wrong ballots.** Contra Costa Times. November 7, 2006. By Dogen Hannah, Karl Fischer and Chris Metinko. Archive: <http://www.votersunite.org/article.asp?id=6776>

**Absentee ballots flood offices.** Inside Bay Area. November 8, 2006. By Ian Hoffman, Staff Writer. Archive: <http://www.votersunite.org/article.asp?id=6784>

<sup>188</sup> **Ballot scanners jam at Bay Area polling places.** Inside Bay Area. November 7, 2006. By Ian Hoffman, Staff Writer. Archive: <http://www.votersunite.org/article.asp?id=6778>

## Ballot-Scanner Voting System Failures in the News – A Partial List

Date	Equipment	Place/Description
November 2006	ES&S M100 Precinct Scanner & M650 High-Speed Scanner	<p><b>Athens County, Ohio.</b><sup>189</sup> Precinct scanners failed to scan ballots in at least two polling places, and the automatic feed on the absentee ballot scanner failed.</p> <p>The \$45,000, high-speed, vote-counting machine for the absentee ballots had been tested, but when the staff finally started counting the absentee ballots Tuesday evening, it didn't work correctly, [Chair of the Athens County Board of Elections Susan] Gwinn said. The machine never actually broke down, she said, but it did not work as intended. The machine is supposed to be able to take a stack of ballots and count them quickly, she said. That did not work, so the staff members had to hand feed all 2,572 absentee ballots, Gwinn explained.</p> <p>The first ES&amp;S technician was unable to repair the machine. In attempting to repair the machine, the second ES&amp;S technician reset the counter and caused scanned votes to be left out of the unofficial count.</p>
November 2006	ES&S M100 Precinct Scanner	<p><b>Calhoun County, Iowa.</b> ES&amp;S M100 scanners locked up. Officials had to use a key to get them working again.<sup>190</sup></p>
November 2006	ES&S M100 Precinct Scanner	<p><b>Contra Costa County, California.</b> Eight or nine ballot scanners at various polling locations weren't reading ballots. Election workers were repairing or replacing the machines. Ballots were placed in a box to be scanned later.<sup>191</sup></p> <p>One of the balky machines appeared to be at a polling location on Clinton Avenue in Richmond. Voter Ted Hudacko said the machine would not accept his ballot when he voted at about 9 a.m.</p> <p>Some malfunctions appeared to stem from the machines' difficulty handling the county's 19-inch-long ballots. Other malfunctions appeared to stem from internal electrical failures that knocked out machines' visual displays.</p>
November 2006		<p><b>Kentucky.</b> Absentee ballot scanners across the state weren't working properly.<sup>192</sup></p> <p>Counties reporting scanner problems were Bell, Bullitt, Breckinridge, Henry, LaRue, Livingston, Marion, Pulaski, Union, Warren, Wayne, Webster and Woodford, [Les Fugate, spokesman for the Kentucky secretary of state] said.</p>

<sup>189</sup> **Why did so much go wrong on Election Day in Athens County?** Athens News. November 13, 2006. By Nick Claussen. Archive: <http://www.votersunite.org/article.asp?id=6858>

<sup>190</sup> **Voting snags are resolved quickly, Iowans report.** Des Moines Register. November 8, 2006. By Jennifer Jacobs. Archive: <http://www.votersunite.org/article.asp?id=6807>

<sup>191</sup> **Some East Bay voters might have used wrong ballots.** Contra Costa Times. November 7, 2006. By Dogen Hannah, Karl Fischer and Chris Metinko. Archive: <http://www.votersunite.org/article.asp?id=6776>

## Ballot-Scanner Voting System Failures in the News – A Partial List

Date	Equipment	Place/Description
November 2006	ES&S M100 Precinct Scanner	<b>St. Louis County, Missouri.</b> Optical scanners broke down at some polling places. Voters deposited their ballots in a box to be counted later. <sup>193</sup>
November 2007	Hart InterCivic eScan	<b>Bedford County, Pennsylvania.</b> The eScan optical scanning machines were inoperable in every polling place in the county election-day morning. <sup>194</sup> Election commissioner Peg Koenig planned to visit all 40 precincts in the county to reprogram machines.
February 2008	ES&S M100 Precinct Scanner	<b>Lake County, Illinois.</b> An as-yet unidentified machine malfunction prevented optical scanners in 161 polling places across the county from connecting to the county's computers in Waukegan through the phone lines. An independent consultant will be employed to investigate. <sup>195</sup> The county clerk's office successfully relied on a backup plan to get votes from 161 polling places to the county government center in Waukegan.
February 2008	ES&S Optech Eagle Scanner	<b>Milwaukee, Wisconsin.</b> Optical scanners jammed and rejected ballots at several precincts. <sup>196</sup> "The electors are told to put their ballots in a secure box within the machine. As soon as the machine is up and running, the poll worker will pull them out and they'll process them," Milwaukee Election Director Susan Edman said.
February 2008	Sequoia 400C	<b>Riverside County, California.</b> Two of the six ballot-counting machines in the central office broke down periodically. At most times, one could not operate, delaying the final results. <sup>197</sup> On average, officials were able to count about 15,000 ballots an hour. "The machines were expected to count about 400 ballots a minute. Since the polls closed at 8 p.m. Tuesday, they've averaged about 36 per minute."

<sup>192</sup> **Voting machine glitches statewide delay results.** Lexington Herald-Leader. November 9, 2006. By Greg Kocher.

Archive: <http://www.votersunite.org/article.asp?id=6804>

<sup>193</sup> **Some voting problems reported in Missouri.** News Leader. November 7, 2006. Associated Press. Archive: <http://www.votersunite.org/article.asp?id=6779>

<sup>194</sup> **Early problems in Bedford, Cambria reports strong early turnout.** Altoona Mirror. November 6, 2007.

<http://www.altoonamirror.com/page/content.detail/id/501647.html?nav=742>. Archive: <http://www.votersunite.org/article.asp?id=7291>

<sup>195</sup> **Consultant to investigate Lake County malfunction.** Daily Herald. February 7, 2008. By Russell Lissau.

<http://www.dailyherald.com/story/?id=130066&src=3>. Archive: <http://www.votersunite.org/article.asp?id=7516>

<sup>196</sup> **Polling Place Problems During Wisconsin Primary.** Today's TMJ4. February 19, 2008. By Katie DeLong.

Archive: <http://www.votersunite.org/article.asp?id=7548>

<sup>197</sup> **Machines delay Riverside County election results.** The Desert Sun. February 6, 2008. By Nicole C. Brambila.

Archive: <http://www.votersunite.org/article.asp?id=7501>

## Ballot-Scanner Voting System Failures in the News – A Partial List

Date	Equipment	Place/Description
May 2008	Diebold AccuVote OS	<b>Gaylordsville, Connecticut.</b> The new optical scanner wouldn't accept ballots. Rebooting corrected the problem. <sup>198</sup>
August 2008	ES&S DS200	<b>Pasco County, Florida.</b> Out of 147 scanners, five broke down and eighteen weren't able to transmit results via modem. <sup>199</sup>  [P]oll workers had to pull out the thumb drive and take it to the elections office – although in one case it took three trips, because of confusion over who had the thumb drive.
August 2008	ES&S DS200	<b>Pinellas County, Florida.</b> 12 scanners had to be replaced, according to county elections spokeswoman Nancy Whitlock. Some experienced paper jams, she said, and on some the screens froze. <sup>200</sup>
August 2008	Diebold OSX	<b>Sarasota County, Florida.</b> When workers tried to count absentee ballots on election night, the optical scan machines would not communicate with the server. So more than 10,000 absentee ballots had to be hand-counted. <sup>201</sup>  “We could not get the absentee ballots totals to upload into the main server to combine all of the totals together for absentee early voting,” says Supervisor of Elections Kathy Dent. So workers had to count them individually.
October 2008	Diebold OSX	<b>Duval County, Florida.</b> (Jacksonville.) Seven of the 15 OSX ballot-reading machines used for early voting would not read ballots, indicating the ballots were too long -- and causing long lines. Officials say they tested the machines and that the ballots are the standard size - 17 inches. Officials say Diebold needs to correct the problem. The problem continued the following day, with scanners refusing to read ballots. <sup>202</sup>

<sup>198</sup> **Voting problems: Count every vote, but not by hand.** The News-Times, May 30, 2008. Archive: <http://www.votersunite.org/article.asp?id=7727>

<sup>199</sup> **Voter turnout worst in 10 years.** St. Petersburg Times. August 27, 2008. By Steve Bousquet, Janet Zink, Anne Lindberg and Craig Pittman. <http://www.tampabay.com/news/politics/elections/article785994.ece>. Archive: <http://www.votersunite.org/article.asp?id=7857>

<sup>200</sup> **Voter turnout worst in 10 years.**

<sup>201</sup> **Computer glitch delays vote count in Sarasota County.** August 27, 2008. WWSB, mysuncoast.com. <http://www.mysuncoast.com/Global/story.asp?S=8911224>. Archive: <http://www.votersunite.org/article.asp?id=7860>

<sup>202</sup> **Early Voting off to Rough Start.** FirstCoastNews. October 20, 2008. By Dave Wax. <http://www.firstcoastnews.com/news/breaking/news-article.aspx?storyid=121489&catid=17>. Archive: <http://www.votersunite.org/article.asp?id=7998>

## Ballot-Scanner Voting System Failures in the News – A Partial List

Date	Equipment	Place/Description
October 2008	Diebold OSX	<p><b>Flagler County, Florida.</b> New scanners are unable to read some ballots. Officials think they are too sensitive to variations in the physical length of the ballot. Election officials replaced the scanners with old ones to avoid a repeat of the problem.<sup>203</sup> (Same problem as in Duval and Leon Counties.)</p> <p>[Supervisor of Elections Peggy Rae] Border said the county’s vendor thinks slightly shorter ballots 1/32 of an inch in some cases may have caused the problem. She said she suspected the new machines were more sensitive to the variation in ballot length.</p>
October 2008	Diebold OSX	<p><b>Leon County, Florida.</b> Ballots at the Woodville and Northeast branches are not being read properly by the optical scanners.<sup>204</sup></p> <p>The machine, deemed the OSX, has what [Leon County Supervisor of Elections Ion] Sancho called a sensitivity problem.</p> <p>“Certain ballots are being rejected across the state,” he said. “The machine is too sensitive for differing lengths.” If the machine reads the ballot card as too long, the OSX machine will simply not read the card.</p>
November 2008	ES&S and Diebold Optical Scanner	<p><b>Florida.</b> Optical scan machine failures are one of the leading issues facing voters in counties across Florida, according to Election Protection.<sup>205</sup></p> <p>Voters have reported malfunctioning optical scan machines and massive machine breakdowns in over 35 separate precincts and 25 counties in some of the most populous counties including Orange, Hillsborough, Miami-Dade, and Sarasota.</p>
November 2008	ES&S M100 Optical Scanner	<p><b>Hennepin County, Minnesota.</b> The optical scanners weren’t working at Brooklyn Center and Buffalo.<sup>206</sup></p> <p>In Buffalo, lines backed up at the voting machines, despite no lines at the booths. The machine was spitting out ballots and returning error messages.</p>

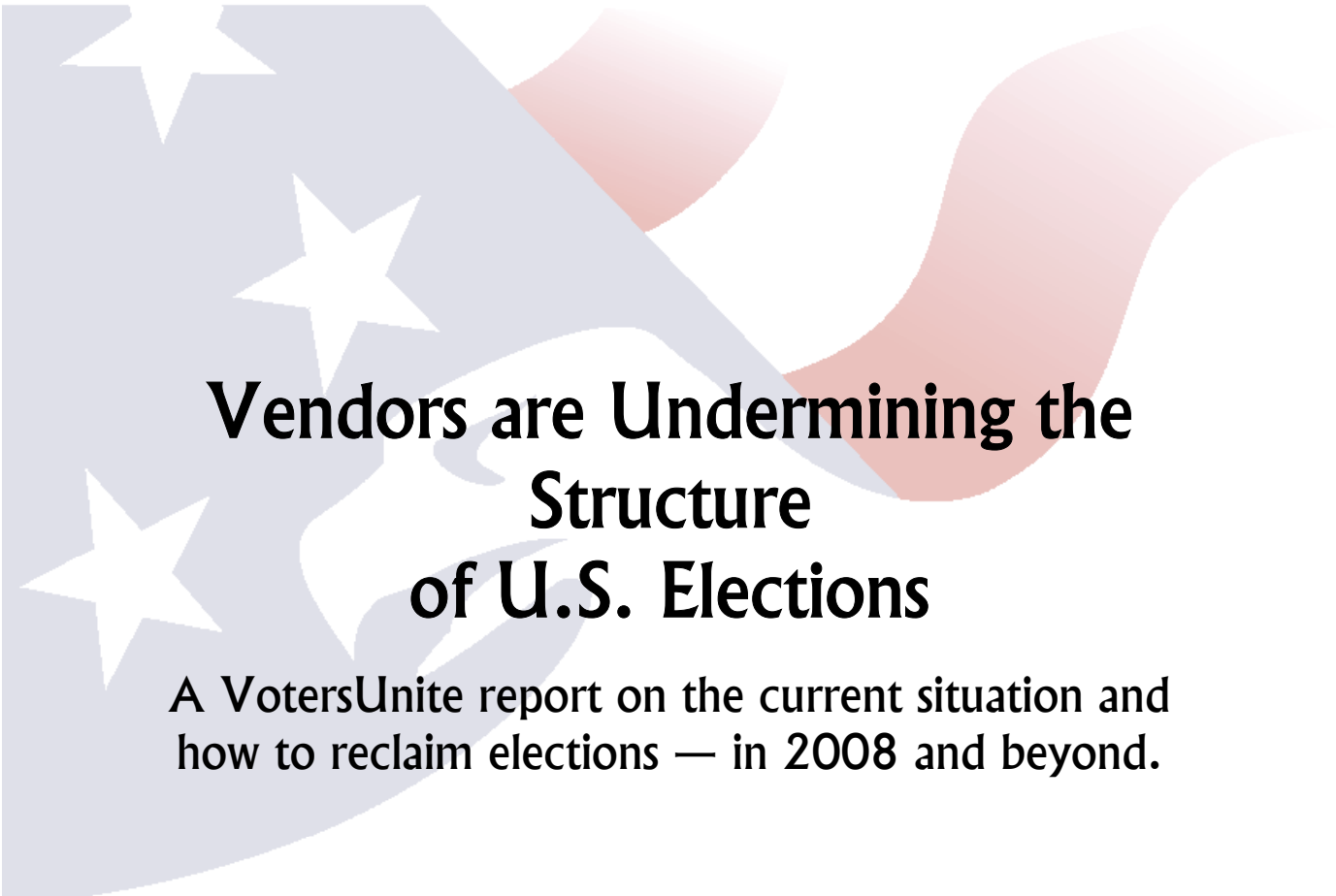
<sup>203</sup> **Problems force Flagler to switch to old voting machines.** Flagler News Journal Online. October 22, 2008. By James Miller, Staff Writer. Archive: <http://www.votersunite.org/article.asp?id=8051>

<sup>204</sup> **Ballots not being recorded at two Leon County polling places.** Tallahassee Democrat. October 20, 2008. By Angeline J. Taylor. Archive: <http://www.votersunite.org/article.asp?id=8001>

<sup>205</sup> **Voting Rights Watch: Across Florida optical scanner failures are a widespread issue.** Facing South. November 04, 2008. <http://southernstudies.org/2008/11/voting-rights-watch-across-florida.html>. Archive: <http://www.votersunite.org/article.asp?id=8137>

<sup>206</sup> **Voters Report Broken Machines in Buffalo, Brooklyn Center.** My Fox Twin Cities. November 4, 2008. Archive: <http://www.votersunite.org/article.asp?id=8127>





# Vendors are Undermining the Structure of U.S. Elections

A VotersUnite report on the current situation and  
how to reclaim elections — in 2008 and beyond.

Prepared by Ellen Theisen,  
Co-Director,  
VotersUnite.Org  
Published for Release August 18, 2008

In warfare during the Middle Ages, a “mine” was a tunnel dug to bring down castles and other fortifications. The technique was used when the fortification was not built on solid rock, and was developed as a response to stone built castles that could not be burned like earlier-style wooden forts. A tunnel would be excavated under the outer defenses either to provide access into the fortification or to collapse the walls.

These tunnels would normally be supported by temporary wooden props as the digging progressed. Once the excavation was complete, the wall or tower being undermined would be collapsed by filling the excavation with combustible material that, when lit, would burn away the props leaving the structure above unsupported and thus liable to collapse.<sup>1</sup>

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<sup>1</sup> [http://en.wikipedia.org/wiki/Mining\\_\(military\)](http://en.wikipedia.org/wiki/Mining_(military))

## Executive Summary

As we approach the 2008 general election, the structure of elections in the United States — once reliant on local representatives accountable to the public — has become almost wholly dependent on large corporations, which are not accountable to the public. Most local officials charged with running elections are now unable to administer elections without the equipment, services, and trade-secret software of a small number of corporations.<sup>2</sup>

If the vendors withdrew their support for elections now, our election structure would collapse.

However, some states and localities are recognizing the threat that vendor-dependency poses to elections. They are using ingenuity and determination to begin reversing the direction.

This report examines the situation, how we got here, and steps we can take to limit corporate control of our elections in 2008 and reduce it even further in the future.

Case studies presented in this report give examples of the pervasive control voting system vendors now have over election administration in almost every state, and the consequences some jurisdictions are already experiencing. Such dependency has allowed vendors to:

- ◆ Coerce election officials into risk-riddled agreements, as occurred in Angelina County, Texas in May 2008.
- ◆ Endanger election officials' ability to comply with federal court orders, as occurred in Nassau County, New York in July 2008.
- ◆ Escape criminal penalties for knowingly violating state laws and causing election debacles, as occurred in San Diego, California in 2004.

Analysis of the impact of laws and decisions at all levels of government demonstrates that lawmakers and officials have facilitated the dependence of local elections on private corporations. This report explores:

- ◆ How the mandates of the Help America Vote Act of 2002 (HAVA) and the inaction of the federal government left the states and localities with nowhere to turn but to the vendors.
- ◆ How state laws, passed by ill-informed representatives, limited the options of local officials to the voting systems developed by big corporations.

Voting system vendors' contracts, communications, and histories explored in this report reveal that vendors exploit the local jurisdictions' dependency by charging exorbitant fees, violating laws and ethics, exerting proprietary control over the machinery of elections, and disclaiming unaccountability.

However, even in the current vendor-dependent environment, some jurisdictions are resisting vendor control and finding ways to decrease their dependency and build an independent foundation for their election structure. See page 40 for case studies that point to the power state and local election officials have to reclaim control of elections.

- ◆ More than many local election officials realize, they have the legal authority to oversee vendors and limit vendor dependency, as is occurring in Luzerne County, Pennsylvania.

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<sup>2</sup> Primarily four: Election Systems and Software (ES&S), Hart InterCivic, Sequoia Voting Systems, and Premier Election Systems (formerly Diebold), though a few other corporations have a very small share of the market.

- ◆ States can “kick the vendor out of the state” or at least stop further vendor infiltration into their elections by following the lead of Oklahoma and Oregon.
- ◆ Paper ballots allow local officials, like those in Curry County, New Mexico, to ultimately rely on their own devices and their own citizens, rather than on the high-tech devices sold by vendors. In the words of the deputy county clerk:

“If necessary, we can always hand count them.”

The final section of this report recommends practical, concrete actions for reducing vendor dependence. Even in time for the November 2008 general election, local officials and citizens can take positive steps to oversee the vendors’ goods and services and mitigate vendor control.

Citizens – both private and public – are beginning to realize that they can and must re-assert their ownership of elections and demand transparent citizen oversight of elections.

“The core mechanics of the American election process should rest with the people charged with administering elections; it should never be wholesaled to election-system vendors.”

~ Leonard Piazza, Election Director, Luzerne County, Pennsylvania

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# About This Report

## *Method of Study*

The case studies and incidents described in this report are only a handful of hundreds of similar incidents that tell the same story. The author presented the incidents in this report, not as a comprehensive study, but merely as examples of the state of our election structure as we approach the 2008 general election.

This report is based on information from the following sources:

- ◆ The federal Help America Vote Act of 2002, enacted on October 29, 2002.
- ◆ Reports from the federal Election Assistance Commission to Congress.
- ◆ Studies conducted by government officials, consultants, and individual researchers.
- ◆ Interviews with state and local election officials.
- ◆ Transcripts of county commissioners' meetings.
- ◆ Contracts between local jurisdictions and their voting system vendors.
- ◆ Voting system certification documents.
- ◆ Five years of media reports of election-related incidents from across the country.
- ◆ Public records received through open records requests.

## *Acknowledgements*

The author could not have conducted this study or produced this report without the efforts and impact of hundreds of citizens who, through dedication and hard work, have brought to light the information on which much of this report rests. In particular, the author thanks Bev Harris, Executive Director of Black Box Voting, for her diligent work and journeys into unexplored territories and for posting her findings openly for others to use.

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**William Biamonte**, Democratic Elections Commissioner, Nassau County, New York

**Douglas Kellner**, Co-Chair of the New York State Board of Elections

**Michael Clingman**, Secretary of the Board of Elections, Oklahoma

**Gene Newton**, HAVA Program Officer, Oregon

**Leonard Piazza**, Election Director, Luzerne County, Pennsylvania

**Bob Babson**, 2006 Maui Election Observer, Hawaii

### *About the Author*

Ellen Theisen is the founder, Co-Director, and Managing Editor of VotersUnite! In her 22-year career as a software technical writer, she has written hundreds of user manuals, functional and design specifications, online help systems, and programmer guides. In April of 2004 Ellen created and still maintains the VotersUnite! website, developing most of the informational resources available on the site.

Early in 2004, Ellen wrote “Myth Breakers for Election Officials” to dispel myths about HAVA and inform decision-makers of important, under-publicized facts about electronic voting issues. The document has been distributed to thousands of federal, state, and local decision-makers and has been included as testimony in at least three court cases regarding electronic voting issues.

Ellen’s work in the voting integrity movement led directly to the development of the Vote-PAD as an accessible alternative to computerized voting devices. During much of 2006, she focused her attention on providing that alternative, and has now resumed developing the resources available at VotersUnite!

# Introduction

Historically, the structure of elections in the United States has been grounded in the work of thousands of local officials, representing and accountable to hundreds of thousands of voters. This was not a rigid and fixed foundation, but a solid support formed by the involvement of a multitude of citizens, each during their own time in history holding up their own small part — some with integrity, some corrupt, some efficient, some incompetent, some responsible, some complacent. Overall, U.S. elections were built on the solid ground of the vast breadth and diversity of the people who held and upheld them.

That is no longer the case.

Voting system vendors<sup>3</sup> have undermined that broad, diverse foundation and replaced it with their own costly support. They promise speedy results to time-sensitive broadcast media; relief to burdened election administrators; assistance to voters; progress to those enamored of high-tech; and fraud-proof elections to those who would buy their products.

But study after study shows their products to be seriously flawed. Their products and services often cause election problems for which they disclaim accountability. And cash-strapped localities struggle to pay the vendors' unexpectedly high maintenance and support fees.

**Our dependence on vendor support has left our election structure vulnerable to corporate decisions that are not in the public interest, corporate profiteering, and claims of trade-secret for information that is essential to public oversight of elections.**

Vendors now provide:

- ◆ Equipment to run elections
- ◆ Software to run the equipment
- ◆ Installation of the equipment
- ◆ Training on the equipment
- ◆ Ballots – printed and on screen
- ◆ Ballot programming
- ◆ Pre-Election and even acceptance testing of their equipment
- ◆ Maintenance, upgrades, and repairs of the equipment
- ◆ Election-Day assistance for election workers and administrators
- ◆ Results retrieval, especially when something goes wrong
- ◆ Troubleshooting and investigation into the cause of problems
- ◆ Recounts – with all the same support



<sup>3</sup> Primarily four: Election Systems and Software (ES&S), Hart InterCivic, Sequoia Voting Systems, and Premier Election Systems (formerly Diebold), though a few other corporations have a very small share of the market.

Meanwhile, states pass laws requiring high-tech equipment based on the technology currently offered by vendors. Members of Congress periodically introduce bills that would require higher-tech equipment that isn't yet invented, give legal priority to vendors' claims of trade secrecy over citizens' rights to observe their elections, and even invite the vendors to sit at the table where standards for voting systems are developed.<sup>4</sup>

Vendors exploit these opportunities to increase their profits and expand their control, and with each extension of vendors' reach into election management, more reach becomes possible.

**If they withdrew their support now, our election structure would collapse.**

The case studies and incidents described in this report give evidence that the vendors are using the threat of withdrawing support to dictate conditions of their support and to charge unexpected increases in fees.

### *Control vs. Accountability*

Local officials remain legally accountable to the people to run elections and comply with state and federal laws, but vendors fall outside the chain of command. Even though vendors are now in practical control of elections – supplying equipment and supplies to run elections, providing ballot programming for counting the votes, and even in many cases retrieving results – vendors are not held legally accountable when these goods or services fail.

While vendors are in control, election officials are accountable.

In an April 2006 lawsuit filed by the State of Oregon against a voting system vendor for breach of contract, the plaintiff makes this untenable situation very clear:

**“The breach did not relieve plaintiff of its obligation to provide HAVA-compliant voting systems for the May 2006 primary election.”<sup>5</sup>**

But some states and localities are recognizing the danger of vendor-dependence and taking steps to rebuild their election structures on a more vendor-independent foundation. Election officials and private citizens alike can participate in the re-construction by taking actions that the laws currently allow – even in 2008 – to oversee vendors' equipment and services and regain ownership of U.S. elections.

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<sup>4</sup> <http://www.govtrack.us/congress/billtext.xpd?bill=s110-3212>

<sup>5</sup> **State of Oregon v. Election Systems & Software, Inc. Complaint for Breach of Contract.** Case No. 06C13803. April 19, 2006. [http://www.votetrustusa.org/pdfs/Oregon/Oregon\\_ESSComplaint\\_041906.pdf](http://www.votetrustusa.org/pdfs/Oregon/Oregon_ESSComplaint_041906.pdf), page 4.



# Undermining Elections: Case Studies

## *Case Study of Angelina County, Texas.*

*The county's dependence on ES&S for all phases of election administration undermines the county's election structure. By threatening to withdraw support, ES&S is able to dictate conditions that increase the county's dependence.*

The Angelina County incident started when a technician from ES&S, the county's voting system vendor, assisted with the March 2008 election by retrieving results, but he tallied the votes incorrectly. The error was noticed by Thelma "Midget" Sherman, Angelina County tax assessor-collector/election administrator and Jim Wark, Angelina County's Democratic Party chairman. Together, they petitioned a judge to allow a recount. Mr. Wark also attempted to hold the vendor accountable: <sup>6</sup>

Wark sent a four-page letter to the secretary of state's election leader, the state Democratic Party chair and the president of the company that sent the site support, Election Systems & Software based in Omaha, Neb.

"The letter requests that action be taken by the secretary of state and the democratic party chair against ES&S for sending an unqualified person down here to tally the votes," Wark said. "His actions created a dark cloud over this election, both parties and the tax collector."

The judge granted the petition, so the county proceeded to plan the date and the recount process. But correspondence between Ms. Sherman and ES&S show that Ms. Sherman encountered a severe obstacle: ES&S threatened to withdraw the support necessary for the recount and all future elections unless Ms. Sherman agreed to certain conditions — conditions she could only meet with timely support from ES&S.

On June 13, 2008, Black Box Voting ([www.blackboxvoting.org](http://www.blackboxvoting.org)) sent an open records request to Ms. Sherman, requesting correspondence and invoices related to the miscount and subsequent related events.<sup>7</sup> The county's response illuminates the way in which ES&S has undermined Angelina County's election structure and then further eroded the structure when the company's COO threatened to withdraw the election support on which the county had become wholly dependent. The records reveal [numbers in square brackets in the following text reference the pages in the pdf file<sup>8</sup> containing the county's response to BBV]:

- ◆ On April 28, ES&S Sheri Menges denied — without explanation — Ms. Sherman's request for on-site support for the November 2008 general election and referred her to Mr. Gary Crump for further discussion. [45]
- ◆ On May 15, two days after the judge ordered a recount of the March election, Mr. Gary Crump, Chief Operating Officer of ES&S, left Ms. Sherman a voice mail telling her that she "would be allowed" site support for the recount, but only if she signed and returned a letter he had mailed to her. [8] (This is the recount made necessary by ES&S' technician's error.)

<sup>6</sup> **When does your vote not count? When it isn't counted: Angelina County officials upset with technician, but say glitch won't change election results.** The Lufkin Daily News, April 19, 2008. By BRITTONY LUND. Archived at: <http://www.votersunite.org/article.asp?id=7672>

<sup>7</sup> <http://www.bbvforgums.org/forums/messages/171/75764.html?1215618531>

<sup>8</sup> <http://www.bbvdcs.org/TX/angelina/2008-Jun-TX-Angelina-PRRresp.pdf>

- ◆ Mr. Crump’s letter said that the conditions applied to all elections “going forward” (thus, the November 2008 election as well). His letter [48] and her response [49] also reveal that Mr. Crump coerced Ms. Sherman to agree to actions that it was not within her power to complete. Her office would be unable to fulfill them without timely cooperation and support from ES&S.
- ◆ Mr. Crump’s final sentence of the letter is: “ES&S will not provide Angelina County with site support until this letter is received.”

To understand the implications of this threat, it is necessary to understand that Angelina County was, at that point, wholly dependent on ES&S on-site support to conduct the recount, as well as any future election.

- ◆ Email exchanges between Ms. Sherman and Zachary Austrew of ES&S, regarding the April 8<sup>th</sup> run-off election [2-5] and invoices from ES&S to Angelina County [15-40] show that Angelina County depended on ES&S for:
  - providing the equipment and supplies for the election,
  - designing and printing the paper ballots,
  - marking the paper test ballots for pre-election testing,
  - programming the ballots for the iVotronics,
  - setting up the audio for the iVotronics designated as accessible for people with disabilities,
  - burning the memory cards for the M100 optical scanners,
  - burning the flashcards and memory cartridges for the iVotronics
  - setting up the Election Reporting Manager program, and
  - providing election-day support, including retrieving results and reporting outcomes.

Note: Invoices also reveal that ES&S charged Angelina County \$3900.00 for the work of the technician who caused the miscount, and the county approved payment [20]. As of June 12, 2008, no record indicates that ES&S was going to compensate the county for any of the recount costs. Ms. Sherman could not be reached by phone for an update.

- ◆ **ES&S set the date for the recount.** In email negotiations with Ms. Sherman, ES&S’ Mark Allison said, “we will set it up for the 4<sup>th</sup>.”[9] She responded that she would try to set June 4<sup>th</sup> as the date for the recount, but she wasn’t sure if all the necessary county people would be available.[9] Note: The recount did end up being held on June 4<sup>th</sup>.

Without ES&S’s on-site support for the recount on the date set by ES&S, the recount simply wouldn’t happen. Neither Ms. Sherman nor her staff knew how to operate the Election Reporting Manager (ERM) program required to re-collect the votes from the memory cards, and operating the ERM was essential to the recount process.[49]

When Ms. Sherman received Mr. Crump’s threat letter, ES&S had already set the recount date for two weeks away, and the judge’s deadline for the recount was only 3½ weeks away.

**While ES&S refusal to provide on-site support would be the direct cause of the court order violation, Ms. Sherman – not ES&S – was accountable to meet the deadline.**

As Ms. Sherman explained to ES&S Mark Allison [43]:

I have a Court Ordered Recount that I need site support on because of the errors that were completely out of my control. Mr. Crump did say I needed to sign the letter and return it to him but he stated a couple of things in the letter that I think the County Attorney needs to address, so I guess you can say my hands are tied at this time as well as yours. We may all have to go back [sic] the District Court to explain why I can’t meet the deadline.

Nevertheless, Ms. Sherman did return the letter, signed, with a supplemental letter of her own dated May 20, 2008. [48, 49] It would be difficult to overstate the significance of her decision to sign the letter even though the County Attorney was “out of town for a week.” [43] Her supplemental letter [49] provides more insight into how ES&S used the threat of a recount collapse, to take control – in two specific ways – over whether or not the county’s November 2008 election collapses.

1. In order to receive the support she needed to comply with a court order to complete the recount within 30 days, she officially agreed to run the Election Reporting Manager (ERM) herself in all future elections.

Ironically, the reason she needed support for the recount was that ES&S technicians had always retrieved election results using the ERM system, as she said in her response letter, “as if it were their’s [sic] to do, so we allowed it, consequently this is why we aren’t educated well enough to run it ourselves at this time.”

But using the ERM system was essential to the recount process. So, **because** she didn’t know how to run the ERM for the recount (which was only two weeks away), she was coerced by ES&S into agreeing to run the ERM in all future elections. Both she and Mr. Crump knew that she was also dependent on ES&S to provide the training she would need. He even pointed it out in his letter to her.

While it is certainly advisable for the county election administrator to run the election, the way in which that change came about reveals much about the danger of vendor control. By threatening to remove the only support propping up the county’s recount, ES&S extorted Ms. Sherman to agree to something over which ES&S, **not Ms. Sherman**, had control. If ES&S is unable or unwilling to schedule the training she needs before November, Ms. Sherman will be unable to run the election and will have broken her agreement. Based on her inability to run the election herself, ES&S could refuse to supply site support for the November election. The election would collapse.

2. Mr. Crump also threatened Ms. Sherman into agreeing to complete all pre-election testing before Early Voting, yet both parties knew that she was completely dependent on ES&S to provide the materials necessary for pre-election testing. Furthermore, as she pointed out in her supplemental letter, the company had failed to provide those materials in a timely manner in the past.

So, Ms. Sherman officially agreed to two items she and Mr. Crump both knew she would be unable to fulfill without support from ES&S, a company that had failed her in the past. And this was on the heels of ES&S’ unexplained threat to withdraw support for the recount and the November 2008 election.

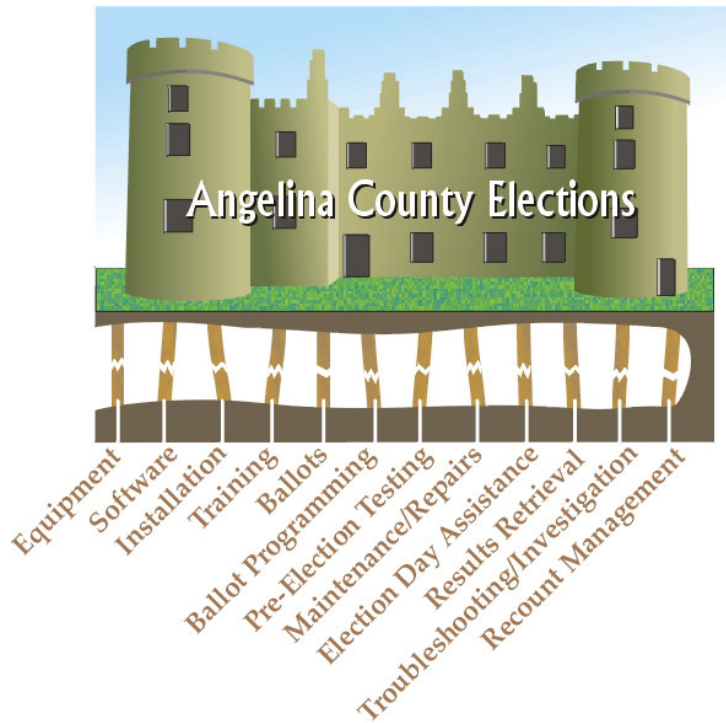
By ES&S’ unexplained refusal to provide support for a recount made necessary because its own technician botched the initial count, ES&S has demonstrated its willingness to withdraw the support propping up Angelina County’s election structure.

ES&S has thoroughly undermined Angelina County's election structure, which is now propped up only by fragile support from ES&S. ES&S has failed the county in the past, invoiced for its failures, threatened to withdraw support without explanation, and forced Ms. Sherman to be wholly dependent on ES&S' support in the future in order for her to fulfill her official agreement with them.

The county is so dependent on ES&S that Ms. Sherman **cannot** hold elections without support from ES&S. Using that dependence like a club over her, ES&S bullied her into signing an agreement that she cannot keep without support from ES&S.

Unfortunately, Ms. Sherman is not alone. News reports and statements from election officials in other states attest to the fact that this type of support from ES&S is all too common. For example, on March 3, 2007, the *Texarkana Gazette* reported that Miller County Arkansas Election Administrator Robby Selph resigned from his job saying this about Election Systems and Software:<sup>9</sup>

The reason I am leaving is the provider of the IvoTronics [sic] and related software lacks competency to make their equipment work timely and effectively. They ... make a difficult job impossible to do. They can't spell, meet deadlines, send documents to the right address or code elections correctly. They leave races off the ballot for us to correct, they can't program their software to work and you have to hand add the results. And they don't return phone calls. The ES&S people in Arkansas are capable but the people I have dealt with in the home office in Omaha prevent them from being effective. They are also mean-spirited when you try to get them to correct the numerous and recurring errors.



<sup>9</sup> <http://www.bradblog.com/?p=4218>

## ***Case Study of Nassau County, New York.***

*To comply with a federal court order, Nassau County purchases ballot-marking devices from Sequoia Voting Systems. Of the first 240 devices delivered, 85% are too defective to be usable, placing the county in jeopardy of violating the court order.*

The federal Help America Vote Act of 2002 (HAVA) spells out certain requirements for voting systems and sets a deadline by which all states must comply with those requirements. Among HAVA's mandates is the requirement for one accessible device in each polling place for use by people with disabilities. New York State missed the deadline, and the U.S. Department of Justice filed a Motion to Enforce.

Relevant to this case study is the "Supplemental Court Order" that U.S. District Judge Gary L. Sharpe signed on January 16, 2008. Judge Sharpe granted the Motion to Enforce and ordered, in part, that by the September 2008 primary elections, all counties in the state must provide, per HAVA, one ballot-marking device (BMD) in each polling place:<sup>10</sup>

... the deployment of ballot marking devices accessible to person with disabilities in every polling place in the State for use in the fall 2008 federal primary and general elections... shall be implemented in full by the Defendants.

By this point, time was short and New York State law requires that accessible voting equipment be capable of being equipped with a pneumatic switch voting attachment, such as a "sip-and-puff" attachment, for use by people with physical disabilities.<sup>11</sup> So, the county's choices were limited to a few high-tech systems currently manufactured by voting system vendors. In this manner, the combination of federal law and state decisions compelled New York counties to use an existing vendor's voting equipment, thus facilitating the dependence of New York State's election structure on voting system vendors.

In order to comply with the court order, Nassau County contracted with Sequoia Voting Systems, Inc. to purchase 450 ImageCast optical scanners, which also serve as ballot-marking devices and include the "sip-and-puff" attachment required by the New York legislature. Kim Zetter describes the machine in a subsequent news article about the county:<sup>12</sup>

The ImageCast machines are special optical-scan machines that include an LCD screen, a printer and a ballot-marking device that allows disabled voters to use them. Disabled voters view the ballot on screen or hear it read to them through headphones, then make their selection using special attachments (a device with buttons or a sipping straw), after which the machine prints out a paper ballot that gets read by the optical scanner component.

Thus, Nassau County (as well as dozens of other New York counties that contracted to purchase the ImageCast) became wholly dependent on Sequoia in order to comply with U.S. District Judge Sharpe's order. Without Sequoia's timely support in providing well-functioning equipment, Nassau County would be in violation of the federal court order.

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<sup>10</sup> <http://www.nyvv.org/newdoc/doj/DOJvNYOrder011608.pdf>

<sup>11</sup> State of New York 2008 Election Law. § 7-202.2.c.

<http://www.elections.state.ny.us/NYSBOE/download/law/2008NYElectionLaw.pdf>, page 234.

<sup>12</sup> **NY: 50 Percent of Sequoia Voting Machines Flawed.** Wired Blog Network. July 14, 2008 By Kim Zetter.

<http://blog.wired.com/27bstroke6/2008/07/ny-50-percent-o.html>

Sequoia's severely flawed performance put the county at risk.

By June 26, 2008, Nassau County had received 156 of the BMDs from Sequoia. **133 (85%) of the ballot-marking devices were so defective they were unusable.** The county legislature and board of elections wrote a joint letter to Judge Sharpe informing him of the problem and alerting him to the fact that the situation "threatens compliance with the Court's Order." In that letter they point out specific problems with the equipment received from Sequoia.<sup>13</sup>

29 were rejected immediately when they were unloaded from the truck because of obvious physical defects or damages, such as a broken side of the printer. 62 failed diagnostic testing because of problems with the USB cord and the printer. And 42 failed Nassau's acceptance testing for a variety of reasons, such as nonresponsive key pads and battery failure. Out of a total of 156 BMDs, only 23 can be used by voters in the condition they were received in.

On July 1, the county legislature and board of elections wrote another letter to Judge Sharpe, telling him that they had received two additional shipments, with similar percentages of "unusable" equipment in the new shipments. Then they describe the status of Sequoia's support:<sup>14</sup>

Despite the County's demands, Sequoia has failed to fix a single broken BMD or to give any indication when the BMDs will be repaired.

They end the letter with a concise summary of how the "control vs accountability" inequity is impacting their county:

We believe this matter is extremely urgent because the defective BMD's jeopardize the implementation of this Court's January 16, 2008 Order. ... Without swift action, Nassau County, through no fault of its own, may be unable to provide functioning BMDs in the majority of polling places in the fall 2008 elections.

By this time, the county had received 240 machines, with a continuing defective rate of 85%. A news article by Kim Zetter<sup>15</sup> relates that, "The problems include printers jamming, broken monitors and wheels, machines that wouldn't boot up, and misaligned printer covers that prevented the covers from closing completely, creating security concerns." The article continues:

Another 112 machines produced a "printer failure" error message. Biamonte [William Biamonte, the Democratic elections commissioner for Nassau County] says this was the result of a change Sequoia made to its firmware. He said that when he received his first batch of machines about a month ago, the machines had "horrific paper jams." To fix the problem, Sequoia loaded new firmware on the systems to speed up the printer, but in doing so disabled the USB port on machines, resulting in the "printer failure" error messages.

...

Biamonte... said a state worker told him he should instruct election workers to just ignore the error message.

...

"How is that acceptable?" Biamonte asked. "Say you buy a brand new car and it works

<sup>13</sup> [http://www.nyvv.org/newdoc/2008/letter\\_re\\_BMD\\_problems\\_06272008.pdf](http://www.nyvv.org/newdoc/2008/letter_re_BMD_problems_06272008.pdf)

<sup>14</sup> <http://www.nyvv.org/newdoc/2008/NassauLetterUSCourt07012008.pdf>

<sup>15</sup> **NY: 50 Percent of Sequoia Voting Machines Flawed.** Wired Blog Network. July 14, 2008 By Kim Zetter. <http://blog.wired.com/27bstroke6/2008/07/ny-50-percent-o.html>

good but the oil gauge isn't working. They tell you, Just drive it anyway. These are brand new machines. \$12,000 each. We cannot in confidence send (them) out to a polling place knowing they have this printer error. How do we know if we really do have a printer failure?"

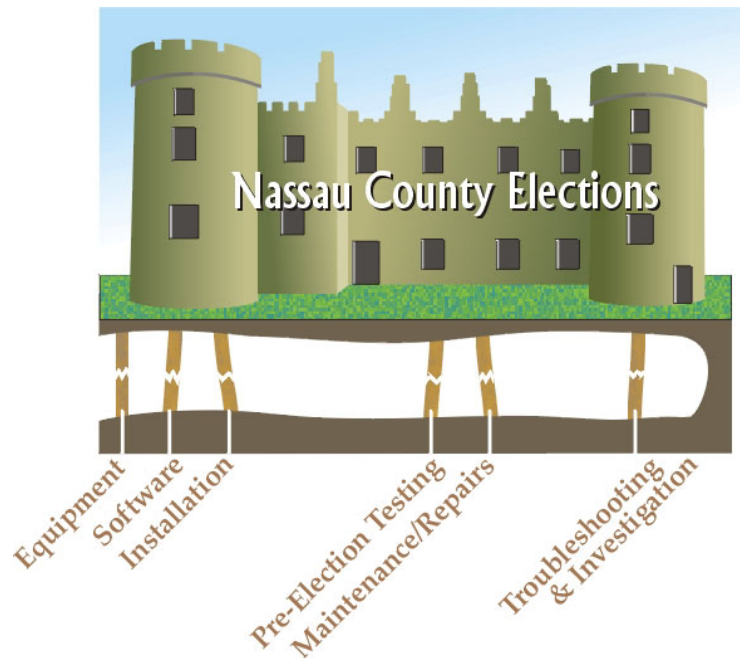
...

A Sequoia spokeswoman would say only that the company is working with state officials "to identify and resolve any voting equipment concerns they may have."

Ironically, while Nassau County purchased these machines from Sequoia for the sole purpose of printing ballots marked by voters with disabilities (the scanner function will not be used), it was the printing function that failed in nearly half of the machines they received.

In August, Mr. Biamonte told the author that Sequoia had been repairing the equipment and most of the machines appeared to be working, though some worked intermittently. But, because the diagnostic function of the machines does not work properly with the newly installed firmware, the diagnostic function will be disabled while the machines are in use. He likened it to driving a car with the dashboard controls disabled.

Undermined by the county's dependence on Sequoia, Nassau County's ability to hold a legal election in 2008 now rests on Sequoia's broken support.



Unfortunately, Nassau County is not alone. As of mid-July, counties in the state of New York had received about 1500 BMDs from Sequoia. **Half** the machines were too defective to use for the purpose for which they were intended.

While Sequoia had repaired most of them by the date of this report, 514 had not yet been delivered by July 31, 2008, the court-ordered delivery deadline. Sequoia promised to deliver the rest by August 15, but even if they fulfill the promise, the delay further shortens the already tight timetable faced by the counties to prepare for the primary and general elections.<sup>16</sup>

The words of Douglas Kellner, co-chair of the New York State Board of Elections, demonstrate the logical result of vendors having control with no accountability.<sup>17</sup>

There's no way the vendor could be adequately reviewing the machines and having so many problems ... What it tells us is that the vendor just throws this stuff over the transom and does not do any alpha- or beta-testing of their own before they apply for certification testing. Then they expect that we'll identify technical glitches and then they'll correct those glitches. But correction of those glitches is an extraordinarily time-consuming process. And its [sic] very disappointing that this equipment is not ready for prime time.

<sup>16</sup> Email from Douglas Kellner.

<sup>17</sup> **NY: 50 Percent of Sequoia Voting Machines Flawed.** Wired Blog Network. July 14, 2008 By Kim Zetter. <http://blog.wired.com/27bstroke6/2008/07/ny-50-percent-o.html>

## ***Case Study of San Diego, California.***

*Diebold's unauthorized and illegal installation of voting equipment and software causes an election debacle.*

On November 10, 2003, the California Voting Systems and Procedures Panel (VSPP) initiated an audit of the 17 California counties using Diebold voting systems.

The audit discovered that Diebold had, in fact, installed uncertified [by the state] software in *all* its client counties without notifying the Secretary of State as required by law, and that the software was not federally qualified in three client counties. Diebold eventually acknowledged that it had failed to notify the Secretary of State of its proposed system modifications, and that its failure to obtain certification for those modifications violated state law.<sup>18</sup>

The staff report states further that Diebold had marketed, sold, and installed its new touch screen machines (TSx) in San Diego County (as well as three others) “prior to full testing, prior to federal qualification, and without complying with the state certification requirements.”

Diebold illegally installed a voting system with touch screen machines and tabulation software that had neither been certified by the state nor federally qualified, even though state law required both. In fact, Diebold sold and installed the system in San Diego County (and three others) before the company even applied for state certification.

The counties insisted there was insufficient time to replace their voting systems before the primary. Less than a month before the primary election, independent testers gave limited approval to use the TSx system installed in San Diego County, on a one-time basis, but only if certain software “patches” were used. So, with this limited approval:

Shortly before the election, Diebold engaged in a crash project to install the patches on its California voting machines.

However, as the Secretary of State learned later, Diebold neglected to install the patch on 24 of San Diego’s machines. On those machines, according to Diebold’s Bob Urosevich, “there were changes to the Cross-Over reporting.”<sup>19</sup> Mr. Urosevich then claims that these votes were corrected before they were sent to the Secretary as part of the official statement of vote.<sup>20</sup>

A near repeat of the TSx story occurred with Diebold’s Precinct Control Module (PCM), which Diebold claimed was essential to the operation of San Diego’s TSx system. The PCM writes data to the Voter Access Cards, which voters insert into the touch screens in order to cast votes. The staff report says:

As with the TSx, Diebold sought certification of the PCM less than two months before the election, without having completed federal testing and with counties asserting the election could not be conducted without PCM approval. After limited testing, the ITAs [Independent Testing Authorities] approved the units for *one time use only*, while stating a number of concerns regarding its performance.

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<sup>18</sup> **Staff Report on the Investigation of Diebold Election Systems, Inc.** April 20,2004. Presented to Secretary of State Kevin Shelley and the Voting Systems and Procedures Panel. Page 2.

<sup>19</sup> Votes of unaffiliated voters in partisan contests for which such “cross-over voting” is allowed by the party.

<sup>20</sup> **Staff Report on the Investigation of Diebold Election Systems, Inc.** Appendix A.



The unqualified, uncertified systems that Diebold illegally installed in San Diego County caused severe and varied problems during the election — even with the one-time-only patch installed on most of the units:

- ◆ **The tabulation software switched 2,747 Democratic presidential primary votes for U.S. Sen. John Kerry to U.S. Rep. Dick Gephardt.**

Diebold's latest explanation says its vote-tabulation software apparently could not handle results from multiple optical-scanning machines, processing ballots with large numbers of candidates and precincts.<sup>21</sup>

- ◆ **Ten votes were inexplicably lost on the touch screen machines at one polling place alone.**

John Pilch, a retired insurance agent who worked as a polling place inspector in San Carlos, said that when polls closed at 8 p.m. Tuesday, the number of people who signed the voter log differed from the number of ballots counted by computers.

"We lost 10 votes, and the Diebold technician who was there had no explanation," said Pilch, who registered complaints with elections officials, his county supervisor and several others. "She kept looking at the tapes."<sup>22</sup>

- ◆ **The machines allowed voters to unknowingly cast multiple ballots.**

In Carmel Valley, one voter said she was allowed to cast a second ballot after the computer spit out her activation card while she was weighing her choices. She later said the card showed that her original vote had been counted.<sup>23</sup>

- ◆ **The malfunctioning machines disenfranchised untold numbers of voters.**

Hundreds of voters, perhaps even thousands, were turned away from their polling place because the machines were not operating as planned.<sup>24</sup>

- ◆ **In San Diego and Alameda Counties, one-fourth of the PCMs, reluctantly approved for one time use only, failed.**

Poll workers saw unfamiliar Windows screens, frozen screens, strange error messages and login boxes none of which they'd been trained to expect.

A report released Monday by Diebold Election Systems shows that 186 of 763 devices known as voter-card encoders failed on election day because of hardware or software problems or both, with only a minority of problems attributable to poll worker training.<sup>25</sup>

Contrary to Diebold's promise to the California Secretary of State, the company never obtained, nor even pursued, federal qualification for the voting system that malfunctioned so badly in San Diego's March 2004 primary election.

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<sup>21</sup> **Diebold reports multiple problems: Registrar wants reason for e-voting.** TriValley Herald. April 13, 2004. By Ian Hoffman, Staff Writer. Archived at <http://www.votersunite.org/article.asp?id=2390>

<sup>22</sup> **Poll workers, voters cite tied-up hotline, poor training, confusion.** Union Tribune; March 7, 2004; By Jeff McDonald and Luis Monteagudo Jr. <http://www.signonsandiego.com/news/politics/20040307-9999-1n7vote.html> Archived at <http://www.votersunite.org/article.asp?id=1454>

<sup>23</sup> **Poll workers, voters cite tied-up hotline, poor training, confusion.**

<sup>24</sup> **Poll workers, voters cite tied-up hotline, poor training, confusion.**

<sup>25</sup> **Diebold reports multiple problems: Registrar wants reason for e-voting.**

In April 2004, California Secretary of State Kevin Shelley called on the state's attorney general to bring criminal charges against Diebold for fraud.<sup>26</sup> But in September, **Attorney General Bill Lockyer announced he would not pursue criminal charges against Diebold.**

Instead, Lockyer eventually joined Alameda County and two election activists, Bev Harris and Jim March, in pursuing and winning a monetary false claims judgment against Diebold.<sup>27</sup>

But the monetary damages were small in comparison to Diebold's income from the election equipment it sold in California.

Since public officials do not hold voting system vendors criminally liable for deliberate, illegal actions that result in disenfranchised voters and botched elections, there is little to deter vendors from continuing to undermine elections.



Diebold is still marketing, selling, and installing its voting systems in jurisdictions throughout the United States – now under the name “Premier Election Systems.”

<sup>26</sup> **California Bans E-Vote Machines.** Wired News. April 30, 2004. By Kim Zetter.  
<http://www.wired.com/news/evote/0,2645,63298,00.html>

<sup>27</sup> **State joins lawsuit against Diebold.** Tri-Valley Herald. September 8, 2004. By Ian Hoffman, Staff Writer.  
<http://www.trivalleyherald.com/Stories/0,1413,86~10671~2387400,00.html>.  
Archived at <http://www.votersunite.org/article.asp?id=2733>

## *Case Study of Hawaii.*

*State officials have handed elections to voting system vendors. Now the state cannot run elections without a vendor.*

In 2004, two vendors programmed the elections, tallied the votes, and counted the turnout. The vendors' poor performance didn't deter the state from continuing this practice.

- ◆ An error in Hart InterCivic's ballot programming allowed voters to vote a straight-party Green ticket, even though no Green candidates were running. The official response shows the state's plan to continue depending on the vendor for this service:<sup>28</sup>

State elections officials said the computerized voting machines provided by Hart Intercivic allowed voters to "click on" a political party, even though there weren't any candidates running from that party on their island.

So a couple of dozen Green Party ballots were recorded, even though there were no candidates.

"We brought that up to the vendor already. They will change that for the next election," [elections spokesman Rex] Quidilla said.

- ◆ When the two vendors made errors, described as "**counting turnout differently**," Mr. Quidilla's response to the vendors shows that the vendors were not held accountable:

Elections officials said they made a mistake in calculating the primary turnout totals, but the results of individual races did not change. State elections officials have revised their primary election turnout figures upward. They now say 252,630 people voted in Saturday's election. Their preliminary count was 4,000 votes fewer than that.

For the first time, there were two election-counting vendors this year. One company counted the paper ballots and another company tallied electronic votes on computers used mostly by those with disabilities. The companies counted turnout differently, resulting in the discrepancy.

"We found this and we made proper adjustments," elections spokesman Rex Quidilla said. "These are routine corrections after each election."

The 2006 elections saw vendors running every aspect of the Hawaii elections again. Bob Babson, an election observer on Maui during that election, wrote to the author:

In 2006, Hart InterCivic and ES&S did just about everything in administering the elections. Hawaii gave them the names of the candidates and they did the rest. They printed the ballots, wrote the software, designed the hardware. Hawaii volunteers ran the precincts but as soon as the memory cards arrived at the county count centers, they were simply handed to ES&S and Hart representatives who "read" them into their tabulator which was connected to a telephone line. They [ES&S and Hart] had 100% control of all Hawaii votes in their computers at the State count center at the end of election day when they tabulated the final results. They then printed the final results in pdf format. So I believe you could say they conducted our elections "turn key."

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<sup>28</sup> **Primary Election Runs Into Problems.** HITV 4. The Hawaii Channel. September 24, 2004.

<http://www.thehawaiiichannel.com/news/3760175/detail.html> Archived at

<http://www.votersunite.org/article.asp?id=2926>

In 2008, a single vendor will run the elections. The contract for Hawaii elections through 2016 (with an option for 2018) was awarded to Hart InterCivic. ES&S, which also bid on the contract, challenged the state's decision, claiming Hart's proposal was unreasonably high. By state procurement law, ES&S' challenge automatically triggered a stay on the contract. Subsequent events demonstrate the state's complete dependence on a vendor to administer elections.<sup>29</sup>

- ◆ In May 2008, Aaron Fujioka, the state procurement officer, initially refused to lift the stay, but relented when Kevin Cronin, the chief election officer, argued that time was running out to have a voting system in place for the September primary election.
- ◆ In June, the administrative hearings officer who reviewed the ES&S challenge reversed the decision, stopping work again. But on June 30, Fujioka said that the delay "places at great risk the voters' right to an efficient and effective statewide election." He found that there was a substantial state interest – conducting the elections – that justified lifting the stay.

The Hawaii 67AM KPUIA News summarized the situation (highlighting added):<sup>30</sup>

The contract with Hart InterCivic for paper eScan and electronic eSlate voting machines will proceed because **the September primary election and November general election could be in jeopardy if Hawaii doesn't have a company in place to administer them.**

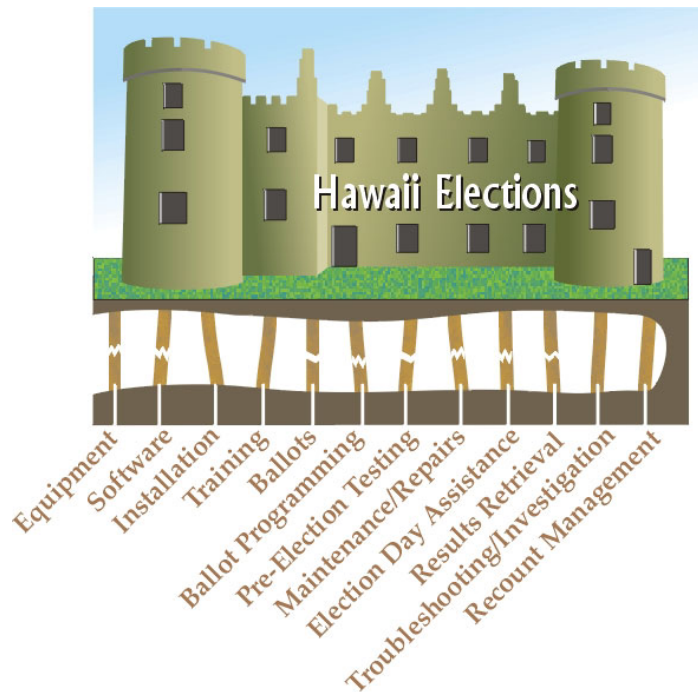
- ◆ But on August 7, Craig Uyehara, an administrative hearings officer for the state Department of Commerce and Consumer Affairs, ruled that the contract was awarded in bad faith and should be canceled. However, he also determined that it was too late to cancel it for 2008.<sup>31</sup>

Hawaii is now so dependent on a vendor to run elections that an officer of the state believes delaying cancellation of an invalid contract with a vendor is necessary to ensure that the 2008 elections can be held.

Scott Nago, Hawaii's Counting Center Section Head, confirmed this absolute dependency.

When asked by the author if the vendor did everything for the elections: equipment maintenance, ballot programming, retrieving results, and all the rest, Mr. Nago said:

Correct.



<sup>29</sup> **Vote preparations resume. State gearing up to use new ballot machines despite bid dispute.**

Honolulu Advertiser. July 2, 2008. By Derrick DePledge, Advertiser Government Writer.

Archived at <http://www.votersunite.org/article.asp?id=7791>

<sup>30</sup> **Disputed voting machines go ahead.** Hawaii News, July 3, 2008; <http://www.kpua.net/news.php?id=15262>

Archived at: <http://www.votersunite.org/article.asp?id=7810>

<sup>31</sup> **Voting-machine deal in jeopardy.** HonoluluAdvertiser.com. August 10, 2008. By Derrick DePledge

<http://www.honoluluadvertiser.com/apps/pbcs.dll/article?AID=/20080810/NEWS01/808100378/1001/LOCALNEWSFRONT>

Archive at: <http://www.votersunite.org/article.asp?id=7836>

Unfortunately, Hawaii is not alone in its dependence on Hart InterCivic. In the company's marketing documents, Hart touts the full service election management it provides to customers.

Hart's "**Installations and Letters of Reference**"<sup>32</sup> – provided to Boulder County, Colorado, during their 2003 negotiations – shows the extent to which Hart controls all phases of the elections for many of its clients. For example:

**For Arapahoe County, Colorado**, Hart InterCivic controlled these phases of the 2002 primary and general elections (page 4):

- ◆ Formatting absentee ballots
- ◆ Printing absentee ballots,
- ◆ Scanning absentee ballots and resolving ballots marked as having a "Damaged Contest"
- ◆ Tabulating absentee results
- ◆ Reporting absentee results
- ◆ Configuring and deploying the eSlate e-voting machines in Early Voting
- ◆ Comprehensive precinct level reporting
- ◆ Integration of election results from the county's old Sequoia system used for Election Day with the new Hart systems used for Early Voting and absentee voting.

**For Philadelphia**, Hart InterCivic controlled these phases of the 2002 general election (page 8):

- ◆ Formatting absentee ballots
- ◆ Printing absentee ballots
- ◆ Scanning absentee ballots and resolving ballots marked as having a "Damaged Contest"
- ◆ Tabulating absentee results
- ◆ Reporting absentee results
- ◆ Exporting absentee results to Danaher software to consolidate with polling place results.

Philadelphia's continuing implementation plan **also** includes:

- ◆ Installation of additional equipment,
- ◆ Training city election staff, and
- ◆ Providing pre-election and Election Day support.

Hart InterCivic's proposal to Boulder County, Colorado offers all this control and more, **including performing the county's acceptance testing of the equipment Hart InterCivic was proposing to sell to the county.**<sup>33</sup>

Many jurisdictions whose elections depend on Hart InterCivic are experiencing the impact of the company's undermining. In the 2006 mid-term elections, two counties surrounding Austin, Texas (Travis and Hays) and the only three Virginia cities using Hart's equipment found that their electronic voting machines truncated the names of candidates on the review screen.<sup>34</sup> Travis County Clerk Dana DeBeauvoir said the cutoff of names is frustrating.

"I don't like it. We've been asking the vendor to address this issue for a couple of years now," she said.<sup>35</sup>

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<sup>32</sup> <http://www.bbvdocs.org/hart/Attach15.pdf>

<sup>33</sup> <http://www.bbvdocs.org/hart/Sec3.pdf>, page 7

<sup>34</sup> <http://www.votersunite.org/electionproblems.asp?sort=date&selectvendor=Hart+InterCivic>

<sup>35</sup> **Voting machines chop off candidates' names.** Computer glitch affects eSlate machines used in Travis, Hays counties; error cannot be fixed by Nov. 7. AUSTIN AMERICAN-STATESMAN. October 26, 2006. By Tara Copp. <http://www.statesman.com/news/content/news/stories/local/10/26/26glitch.html>. Archive: <http://www.votersunite.org/article.asp?id=6677>

# Government Facilitation of Vendor-Dependency

## *Federal “Help America Vote Act of 2002”: a Vendor’s Dream Come True Congress sets the stage for increased vendor dependency.*

In October of 2002, Congress passed the Help America Vote Act of 2002 (HAVA), which was purported to improve election systems nationwide. However, HAVA set the stage for voting system vendors to significantly increase not only their sales, but also their control over elections.

The federal law did this by:

- ◆ Requiring, nationwide, enhancements to voting systems for every polling place.
- ◆ Suggesting specific high-tech products produced and planned by the major vendors.
- ◆ Providing over \$3 billion to be disbursed to the states to fulfill these and other requirements.
- ◆ Setting a deadline that allowed three years for the requirements to be implemented.

In an attempt to receive the federal grant money under HAVA’s time table, the states replaced or enhanced their existing voting systems with systems that vendors claimed were in compliance with HAVA.

The voting system vendors sold billions of dollars of equipment to the states, asserting that it was what the states needed to comply with federal law. And since the equipment was so high-tech, so complex, and so far beyond the average election administrator’s range of expertise, the vendors are now charging steep fees for maintenance, election support, and other services the jurisdictions depend on.

Congress set the stage, and the vendors collected a heavy flow of federal funds that paid for much of the cost of the equipment and installation. But HAVA doesn’t pay for subsequent years of maintenance, support, and assistance. Now that the local jurisdictions have become dependent on high-tech devices to administer elections, they are being crushed under the invoices from the vendors that maintain and support those devices.

Disturbingly, many of these devices are not auditable as required by HAVA, are not accessible as required by HAVA,<sup>36</sup> and do not report votes accurately as required by HAVA.<sup>37</sup>

Furthermore, the use of these devices increases vendor-dependency not only because of the localities’ dependence on the goods and services of the vendors, but also because the American people are forced to depend on the vendors’ inherently unobservable software, rendering the public unable to oversee and verify public elections.

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<sup>36</sup> **Accessibility Review Report for California Top-to-Bottom Voting Systems Review.** Noel Runyan and Jim Tobias. July 26, 2007. [http://www.sos.ca.gov/elections/voting\\_systems/ttbr/accessibility\\_review\\_report\\_california\\_ttb\\_absolute\\_final\\_version16.pdf](http://www.sos.ca.gov/elections/voting_systems/ttbr/accessibility_review_report_california_ttb_absolute_final_version16.pdf). and

**Improving Access To Voting: A Report on the Technology for Accessible Voting Systems.** February 2007 By Noel H. Runyan. [http://www.voteraction.org/reports/nrreport/Improving\\_Access\\_to\\_Voting\\_.pdf](http://www.voteraction.org/reports/nrreport/Improving_Access_to_Voting_.pdf).

<sup>37</sup> <http://www.votersunite.org/info/AccuracyIgnored.asp>

## ***Federal Violations of Federal Law Leave States in a Double Bind.***

*The federal government fails to meet its HAVA deadlines for giving guidance to the states on how to comply with HAVA, yet states are held accountable to comply.*<sup>38</sup>

On October 29, 2002, the President signed HAVA into law. As of February 27, 2003 and continuing until the end of December of 2003, the federal government was in violation of that law. Repercussions of the violation are described below.

HAVA established the federal Election Assistance Commission (EAC) and required the EAC to develop voting systems standards by January 1, 2004. The standards were intended to guide the states as they upgraded their election equipment to meet the HAVA requirements by the January 1, 2006 deadline.

In violation of HAVA, the Congress and the President delayed the appointment of the members of the EAC for more than nine months after the HAVA deadline – two weeks before the statutory deadline for providing the voting system standards. Furthermore, although HAVA authorized up to \$10 million for each year from 2003 to 2005 for the EAC to carry out its duties, Congress appropriated only \$2 million for 2003 and the EAC was not formed in time to use the funds. Only \$1.2 million was appropriated for 2004.<sup>39</sup>

On April 30, 2004, the EAC reported its concern about this situation to Congress, listing nine of the Commission's missed deadlines caused by the delay in its establishment and the lack of funding. Following the list, the EAC correctly predicts the impact of these delays on the states. The EAC reported:<sup>40</sup>

The implications of these delays are likely to include continued problems with election equipment; other unresolved election administration issues such as voter verifiable paper audit; and the likely inability of States and local election jurisdictions to meet HAVA requirements by statutory deadlines.

As of the end of Fiscal Year 2004, only \$1.2 million (4% of the \$30 million authorized by HAVA) had been made available by the federal government to support the work of the EAC in developing guidance needed by the states to implement HAVA requirements. In contrast, \$1.3 **billion** had been disbursed to the States to pour into the purchase of voting systems without the benefit of the guidance and assistance mandated by HAVA.<sup>41</sup>

In January of 2005, the EAC again voiced its concern that states were expected to meet HAVA requirements without benefit of the prerequisite guidance mandated by HAVA:<sup>42</sup>

Perhaps the most serious implication of the delayed EAC startup is the impact it will have on State procurement of new election equipment and the ability of some States and local election jurisdictions to meet HAVA requirements by statutory deadlines.

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<sup>38</sup> Adapted from: **Is HAVA Being Abused? Part II: Good for the Goose; Why Not for the Gander?** by Ellen Theisen, June 4, 2005. <http://www.votersunite.org/info/hava-abuse2.asp>.

<sup>39</sup> **U.S. Election Assistance Commission. Annual Report. Fiscal Year 2003.** April, 2004. Page 11. [http://www.eac.gov/about/report/docs/2003annualreport.pdf/attachment\\_download/file](http://www.eac.gov/about/report/docs/2003annualreport.pdf/attachment_download/file)

**U.S. Election Assistance Commission. Fiscal Year 2004 Annual Report.** January 2005. Page 3. [http://www.eac.gov/about/report/docs/annualreportfy04.pdf/attachment\\_download/file](http://www.eac.gov/about/report/docs/annualreportfy04.pdf/attachment_download/file)

<sup>40</sup> **EAC 2003 Annual Report.** Page 2.

<sup>41</sup> **EAC 2004 Annual Report.** Page 13

<sup>42</sup> **EAC 2004 Annual Report.** Page 5

In the final section of the report, which discusses the activities planned for 2005, the EAC acknowledges that it cannot provide guidance to the States in time to help them make wise choices as they procure voting systems to comply with HAVA. The Commissioners point out that they can only provide that guidance **after** the states have their new systems in place.<sup>43</sup>

Many States are directing efforts to meeting the January 2006 deadline ... the Agency expects to receive initial recommendations for voting system standards from the TGDC and NIST for use in voting system procurements, laying the groundwork for future technical assistance to the States.

Nevertheless, on May 10, 2005, in a response to a question from the Louisiana Secretary of State, the U.S. Department of Justice declared that HAVA “unambiguously requires” the states to have their compliant voting systems in place and ready for use in time to meet the “absolute” deadline of January 1, 2006.<sup>44</sup>

Congress, too, was complicit in this decision to force states to meet requirements that were, as yet, undefined by the agency tasked with defining them. The National Association of Counties (NACo), VotersUnite, and other organizations attempted to convince Congress to remove this double bind by extending the states’ deadlines, but those attempts were unsuccessful.<sup>45</sup>

With no federal guidance on how to meet the requirements of HAVA, the states began purchasing new systems, relying almost wholly on the voting system vendors’ assurance that their systems were HAVA-compliant. It wasn’t until July 20, 2005 – **less than six months before the states’ new, HAVA-compliant systems had to be in place and ready for use** – that the EAC provided, in the form of a 4-page advisory, minimal guidance on how to determine if a voting system meets the HAVA requirements.<sup>46</sup>

The massive breakdowns and other problems that occurred in the 2006 primary elections across the country demonstrate the result of the federal government’s insistence on requiring the cart before the horse.<sup>47</sup>

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<sup>43</sup> EAC 2004 Annual Report. Page 30

<sup>44</sup> <http://www.usdoj.gov/crt/voting/hava/lavotsyst.htm>

<sup>45</sup> Letter to U.S. Senate and House Committees on Appropriations.

<http://www.votersunite.org/info/HAVADeadlineLetter.pdf>

<sup>46</sup> EAC Advisory 2005-004: How to determine if a voting system is compliant with Section 301(a) – a gap analysis between 2002 Voting System Standards and the requirements of Section 301(a).

[http://www.eac.gov/election/docs/eac-20advisory-2005-004301a.pdf/attachment\\_download/file](http://www.eac.gov/election/docs/eac-20advisory-2005-004301a.pdf/attachment_download/file)

<sup>47</sup> <http://www.votersunite.org/info/trainwreck.asp>



## ***States Escalate Dependence on Vendors.***

*Mandates and decisions of state and local legislators and election officials facilitate the vendors' ability to undermine elections.*

Legislators and election officials – motivated by the need to quickly comply with federal law, concerned about losing millions in federal grants, threatened by lawsuits from advocates for people with disabilities, and informed in large part by voting system vendors – took actions that facilitated the vendors' undermining of elections.

After HAVA was enacted, every state had over three years until the deadline for compliance. Any state (or a collaboration of states) might have commissioned experts to develop a secure, accessible, reliable voting system for all jurisdictions in the state to use. Such a system would have been fully owned by the people without any licensing fees and could have been maintained by technicians accountable to the state.

Such a system would have cost a fraction of what states have paid for insecure, inaccessible, unreliable voting systems that have forced jurisdictions to depend on voting system vendors for costly maintenance, support, and upgrades.

Such a system would not have been subject to illegal installations, contract violations, or deliveries of broken equipment the vendor was slow to repair. Nor would counties using such a system be at the mercy of vendors holding them hostage for the support on which the counties depend.

But no state used the time and funding provided by HAVA to commission the development of an independent, state-owned voting system.

Instead, they took action as if they were dependent on the big voting system corporations for turn-key products to run elections. And by those actions, the states made it so.

Though Congress set the stage for increased dependency on vendors, lower levels of government are also responsible, in a variety of ways, for facilitating the vendors' undermining of our election structure.

### ***State legislatures***

As if electronic equipment manufactured by the voting system corporations was their only option for HAVA-compliance, state legislatures passed laws that made such equipment the only realistic option for local jurisdictions. For example:

- ◆ New York state law requires voting systems to include specific features of systems currently manufactured by the big corporations.

#### **§ 7-202. Voting machine or system; requirements of.**

... f. be provided with a "protective counter" which records the number of times the machine or system has been operated since it was built and a "public counter" which records separate election;<sup>48</sup>

This provision (one of many similarly specific provisions in New York election law) prevents innovative solutions that might provide a better, or even a different, way of accomplishing the goals of "protective counters" and "public counters."

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<sup>48</sup> <http://www.elections.state.ny.us/NYSBOE/download/law/2006NYElectionLaw.pdf>. page 203 (pdf page 231)

- ◆ Maryland law disallows independent development of a government-owned voting system:

(a) In general.- Acquisition of a voting system shall be by purchase, lease, or rental and shall be exempt from State, county, or municipal taxation.<sup>49</sup>

In an attempt to ensure the reliability of electronic voting equipment, most states passed laws requiring that their voting systems meet federal standards and/or be certified by the Election Assistance Commission (EAC). For example:

- ◆ Washington State law requires (with some exceptions) that voting systems be tested and approved by a test lab authorized by the EAC.

No voting device shall be approved by the secretary of state unless it:  
...(6) Except for functions or capabilities unique to this state, has been tested and certified by an independent testing authority designated by the United States election assistance commission.<sup>50</sup>

- ◆ Idaho law requires approval by a test lab authorized by either NASED or the EAC:

(1) ... In order for any voting machine or vote tally system to be certified in Idaho it must meet the federal election commission standards and be approved for use by an independent testing authority sanctioned by the national association of state election directors (NASED) or be certified by the federal election assistance commission.<sup>51</sup>

Because of the high fees charged by the independent testers that determine compliance, such laws, in practice, prohibit the use of any voting systems other than those manufactured by corporations large enough to afford the expense.

### *State and Local Election Officials*

Many state and local officials dismiss evidence of defective services provided by vendors and continue to turn to the vendors for those services. For example:

- ◆ Ballot programming, which provides the means by which marks on a ballot or touches on a screen are translated into votes, is done separately for every election and is never subjected to independent testing. Even if the underlying software were error free, an error in ballot programming could pervert the results or even reverse the outcome of an election.

And it has.<sup>52</sup> In election after election, ballot programming errors cause inaccurate results. Dozens of such errors by ES&S alone have been reported in the news, yet hundreds of jurisdictions continue to pay ES&S to program their elections.

Many election officials also dismiss voting system studies conducted by respected experts, consultants, and universities when those studies discredit the voting systems. These officials choose, instead, to rely on the assurances and claims of voting system vendors, despite the perennial and well-known tendency of vendors in general to present biased information about their products in order to make a sale and protect their reputations. For example:

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<sup>49</sup> § 9-105. Acquisition of voting systems.

<http://www.michie.com/maryland/lpext.dll?f=templates&fn=main-h.htm&2.0>

<sup>50</sup> RCW 29A.12.080. Requirements for approval. <http://apps.leg.wa.gov/RCW/default.aspx?cite=29A.12.080>

<sup>51</sup> 34-2409. Examination Of Machines By Secretary Of State Prior To Adoption.

<http://www3.state.id.us/cgi-bin/newidst?sctid=340240009.K>

<sup>52</sup> Vote-Switching Software Provided by Vendors – A Partial List Reported in the News. Compiled by VotersUnite. <http://www.votersunite.org/info/Vote-Switchinginthenews.pdf>

- ◆ **Maryland State Board of Elections, 2003-2004.** The State of Maryland purchased Diebold touch screen systems for \$55.6 million dollars, even after two expert studies – one of them commissioned by Maryland – declared the system to be unsuitable for use in elections.

In July of 2003, four scientists from Johns Hopkins and Rice Universities studied the source code of the software used for Diebold’s tabulation equipment. Their report states:

We conclude that this voting system is unsuitable for use in a general election.<sup>53</sup>

Diebold responded that the researchers didn’t consider how elections officials use the machines in actual elections.<sup>54</sup>

In August of 2003, Maryland was considering the purchase of Diebold’s touch screen voting system and hired a consulting firm (SAIC – Science Applications International Corporation) to analyze Diebold’s system. The firm’s report recommended 17 “mitigation strategies” for defects the team found. The executive summary states:

The system, as implemented in policy, procedure, and technology, is at high risk of compromise.<sup>55</sup>

Diebold claimed that the report didn’t find much fault with the equipment or software, but that most of the criticism addressed how election workers set up and monitored the machines.<sup>56</sup>

Despite the severe defects identified in the Johns Hopkins/Rice and SAIC reports, Maryland finalized the \$55.6 million dollar purchase from Diebold.<sup>57</sup>

A subsequent study by RABA Technologies (commissioned by Maryland in January 2004) also found severe defects in the Diebold system. The computer science experts who tested the system gave it a failing grade.<sup>58</sup>

However, the press release from Diebold President Bob Urosevich said:

The findings in the SAIC and RABA reports both confirm the accuracy and security of Maryland’s voting procedures and our voting systems as they exist today.<sup>59</sup>

The Maryland Board of Elections accepted Diebold’s claims and announced:

The findings in the SAIC and RABA reports both confirm the accuracy and security of Maryland’s voting system and procedures as they exist today.<sup>60</sup>

<sup>53</sup> **Analysis of an Electronic Voting System.** July 23, 2003; By Tadayoshi Kohno, Adam Stubblefield, Aviel D. Rubin, and Dan S. Wallach. <http://avirubin.com/vote/analysis/index.html>

<sup>54</sup> **Touch-Screen Voting Gets State OK, With Security Fixes.** FoxNews.com. September 25, 2003. By Michael Duck. <http://www.foxnews.com/story/0,2933,98248,00.html>. Archived: <http://www.votersunite.org/article.asp?id=633>

<sup>55</sup> **Risk Assessment Report: Diebold AccuVote-TS Voting System and Processes.** September 2, 2003; by SAIC. [http://www.elections.state.md.us/pdf/risk\\_assessment\\_report.pdf](http://www.elections.state.md.us/pdf/risk_assessment_report.pdf)

<sup>56</sup> **Report critical of Diebold system. Independent study for Maryland finds voting machines have high-risk weaknesses.** Sep. 27, 2003. Beacon Journal. By John Russell and Erika D. Smith. Archived at: <http://www.votersunite.org/article.asp?id=629>

<sup>57</sup> **New voting machines to be reviewed: General Assembly asks for its own analysis of possible vulnerability.** Baltimore Sun. October 21, 2003. By David Nitkin. Archived: <http://www.votersunite.org/article.asp?id=813>

<sup>58</sup> **E-Vote Still Flawed, Experts Say.** Wired News. January 29, 2004. By Kim Zetter <http://www.wired.com/politics/security/news/2004/01/62109>

<sup>59</sup> **Maryland Approves Electronic Voting Machines Despite Security Flaws.** The Sentinel. By Nia Davis, Staff Writer. <http://www.thesentinel.com/286696744072607.php>

<sup>60</sup> **Response to: Department of Legislative Services Trusted Agent Report on Diebold AccuVote-TS Voting System.** Linda H. Lamone, Administrator, Maryland State Board of Elections. January 29, 2004. [http://mlis.state.md.us/Other/voting\\_system/sbe\\_response.pdf](http://mlis.state.md.us/Other/voting_system/sbe_response.pdf)

Since the time the three reports were published, NASED has continued to approve Diebold's touch screen systems, states have continued to certify them for use, and jurisdictions have continued to buy them – **without Diebold's ever fixing the most egregious defects identified in the 2004 RABA report.**<sup>61</sup>

- ◆ **County Commissioners, Emery County, Utah, 2006.** Lt. Gov. Herbert and the county commissioners defended Diebold and the use of the vendor's defective equipment and dismissed the election director whose computer expert exposed the defects.

Emery County Elections Director Bruce Funk had concerns about memory discrepancies he noticed in his newly-delivered Diebold TSx (touch screen) voting system. At the suggestion of Black Box Voting, he invited Finnish security expert Harri Hursti to examine the voting machines. Mr. Hursti found several ways in which the machines were vulnerable to vote-manipulation – one of them particularly hazardous. He stated in his report that:

One of them, however, seems to enable a malicious person to compromise the equipment even years before actually using the exploit, possibly leaving the voting terminal incurably compromised.<sup>62</sup>

This flaw in the machines' software is so severe that Dr. David Dill, Dr. Doug Jones, and Dr. Barbara Simons – three nationally respected computer experts who had been investigating such systems for years – responded with:

We must ask, how did software containing such an outrageous violation come to be certified, and what other flaws, yet to be uncovered, lurk in other certified systems?<sup>63</sup>

These scientists also noted that the defects Mr. Hursti found had been “documented in analysis, commissioned by Maryland and conducted by RABA Technologies,” and they pointed out that:

For over two years, Diebold has chosen not to fix the security holes, and Maryland has chosen not to alert other states or national officials about these problems.

But the officials didn't thank Mr. Funk for exposing a defect that could collapse elections in Emery County, as well all of Utah. Nor did they demand that Diebold fix the defects or return the money. Nor did they sue Diebold for breach of contract or false claims.

Instead, Lt. Gov. Herbert and the Emery County commissioners met behind closed doors with Diebold representatives, sided with Diebold's criticism of Mr. Funk for testing the equipment, insisted on keeping and using the Diebold machines, and ultimately released Mr. Funk from his position.<sup>64</sup>

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<sup>61</sup> **The Diebold Bombshell.** OpEd News. July 23, 2006. by David Dill, Doug Jones and Barbara Simons. [http://www.opednews.com/articles/opedne\\_david\\_di\\_060723\\_the\\_diebold\\_bombshel.htm](http://www.opednews.com/articles/opedne_david_di_060723_the_diebold_bombshel.htm)

<sup>62</sup> **Diebold TSx Evaluation. SECURITY ALERT:** May 11, 2006. A Black Box Voting Project. Prepared by: Harri Hursti. <http://www.blackboxvoting.org/BBVtsxstudy.pdf>, page 2.

<sup>63</sup> **The Diebold Bombshell.**

<sup>64</sup> **County clerk refuses to conduct election with Diebold machines.** Emery County Progress. March 2006. By PATSY STODDARD, Editor. [http://www.ecprogress.com/print.php?tier=1&article\\_id=3932](http://www.ecprogress.com/print.php?tier=1&article_id=3932) and <http://www.bbvforums.org/cgi-bin/forums/board-profile.cgi?action=rate&topic=1954&page=27634&post=21457>

# Unaccountable, Untrustworthy, Overcharging, Bullying for Control

## *Unaccountable*

*Vendors' contracts contain blanket disclaimers, essentially saying "We don't warrant that our voting systems or services are fit for the purpose of holding elections."*

Remarkably similar standard language in the contracts of the four major voting system vendors disclaim all accountability for the equipment, software, and services for counting votes. However, despite this contractual language, the question remains to be decided by the courts whether these companies are vulnerable to breach of contract claims for marketing defective products and services.

**Hart InterCivic.** The following words in Hart InterCivic's 2006 contract with Yolo County, California are typical of the warranty terms in Hart InterCivic contracts. This same disclaimer appears in Hart's proposed 2005 contract with the State of Texas.

**5. Warranty Terms:** ... HART DISCLAIMS ALL EXPRESS AND IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE, MERCHANTABILITY, TITLE AND NONINFRINGEMENT FOR ALL EQUIPMENT, SOFTWARE, AND SERVICES. THE EXPRESS WARRANTIES EXTEND SOLELY TO CLIENT. SOME STATES (OR JURISDICTIONS) DO NOT ALLOW LIMITATIONS ON IMPLIED WARRANTIES, SO THE ABOVE LIMITATION MAY NOT APPLY TO CLIENT.<sup>65</sup>

**Diebold.** The 2006 contract between Diebold Election Systems, Inc. (DESI, now "Premier") and Larimer County, Colorado gives an example of Diebold's disclaimer.

**8.5. No Other Warranties.** DESI DISCLAIMS ALL OTHER REPRESENTATIONS AND WARRANTIES, WHETHER WRITTEN, ORAL, EXPRESS, IMPLIED OR STATUTORY, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE AND ANY WARRANTY BASED ON A COURSE OF DEALING, COURSE OF PERFORMANCE OR USAGE OF TRADE.<sup>66</sup>

**Sequoia.** The company's 2001 contract with Palm Beach, Florida contains language representative of its contracts, which essentially claims "we aren't accountable for anything, even breach of this contract."

**B. Other Warranties.** ... SEQUOIA EXPRESSLY DISCLAIMS ALL OTHER WARRANTIES, EITHER EXPRESS OR IMPLIED, NOT SPECIFICALLY SET FORTH HEREIN, INCLUDING THE IMPLIED WARRANTY OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. IN NO EVENT WHATSOEVER SHALL SEQUOIA BE LIABLE FOR INDIRECT, SPECIAL OR INCONSEQUENTIAL DAMAGES AS A RESULT OF ITS BREACH OF ANY OF THE PROVISIONS OF THIS AGREEMENT.<sup>67</sup>

<sup>65</sup> [http://www.window.state.tx.us/procurement/cat\\_page/578-N1HarteSlateStandardAgreement.pdf](http://www.window.state.tx.us/procurement/cat_page/578-N1HarteSlateStandardAgreement.pdf), page 4.

Also [http://accurate-voting.org/contracts/CA/Yolo/CA\\_yolo\\_la\\_2006.pdf](http://accurate-voting.org/contracts/CA/Yolo/CA_yolo_la_2006.pdf), page 3

<sup>66</sup> [http://accurate-voting.org/contracts/CO/Larimer/CO\\_larimer\\_2006.pdf](http://accurate-voting.org/contracts/CO/Larimer/CO_larimer_2006.pdf), page 3

<sup>67</sup> [http://accurate-voting.org/contracts/FL/Palm\\_Beach/FL\\_palmbeach\\_2001.pdf](http://accurate-voting.org/contracts/FL/Palm_Beach/FL_palmbeach_2001.pdf), p 20,21

At the end of the contract with Palm Beach, Sequoia's software license and warranty warrants the ROM (the hardware chip that holds the software). So, if the chip turns out to be unreadable, the company will furnish another ROM with the same software.

Then, reiterating and even strengthening its previous disclaimer, Sequoia disclaims accountability for everything else, even the documentation, functionality, operation, and accuracy of the software.

#### 1.2 LIMITED WARRANTY

Licensor warrants to Licensee the ROM(s) on which the Program is furnished will be free from defect in materials and workmanship under normal use and conditions for the period of the Warranty Agreement specified in the Purchase Agreement from the date of delivery of this software package to you as evidenced by a copy of your receipt.

EXCEPT AS STATED ABOVE IN THIS SECTION, THE PROGRAM AND DOCUMENTATION ARE PROVIDED "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OR [sic] MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. LICENSOR DOES NOT WARRANT THE FUNCTIONS CONTAINED IN THE PROGRAM WILL MEET YOUR REQUIREMENTS OR THAT THE OPERATION OF THE PROGRAM WILL BE UNINTERRUPTED OR ERROR-FREE.<sup>68</sup>

**ES&S.** In its 2001 contract with Sarasota County, Florida, ES&S included this disclaimer of accountability in its "Miscellaneous" article.

**Article 3: Miscellaneous. e. Exclusive Remedies.** ... ES&S EXPRESSLY DISCLAIMS ALL WARRANTIES, WHETHER EXPRESS OR IMPLIED, WHICH ARE NOT SPECIFICALLY SET FORTH IN THIS AGREEMENT, INCLUDING BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY.<sup>69</sup>

By 2005, ES&S had joined with the other vendors by also disclaiming "fitness for a particular purpose" as shown in its contract with Jefferson County, Washington.

**Article 3: Miscellaneous. e. Exclusive Remedies.** ... ES&S EXPRESSLY DISCLAIMS ALL WARRANTIES, WHETHER EXPRESS OR IMPLIED, WHICH ARE NOT SPECIFICALLY SET FORTH IN THIS AGREEMENT, INCLUDING BUT NOT LIMITED TO, ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.<sup>70</sup>

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<sup>68</sup> [http://accurate-voting.org/contracts/FL/Palm\\_Beach/FL\\_palmbeach\\_2001.pdf](http://accurate-voting.org/contracts/FL/Palm_Beach/FL_palmbeach_2001.pdf), pg 163

<sup>69</sup> [http://accurate-voting.org/contracts/FL/Sarasota/FL\\_sarasota\\_2001.pdf](http://accurate-voting.org/contracts/FL/Sarasota/FL_sarasota_2001.pdf), page 7,8

<sup>70</sup> [http://accurate-voting.org/contracts/WA/Jefferson/WA\\_jefferson\\_2005.pdf](http://accurate-voting.org/contracts/WA/Jefferson/WA_jefferson_2005.pdf), page 5.

## ***Untrustworthy.***

*The corporations controlling our elections have long histories of unethical, deceitful, and even illegal behavior.*

Gary L. Greenhalgh, who served with the Federal Election Commission from 1975 to 1985 as director of the FEC clearinghouse on election administration and the office of information, said:

Voting machines are different from other things bought by a government.

In purchasing voting equipment, election officials must rely heavily on the integrity, honesty and reliability of the vendor selling them this equipment.<sup>71</sup>

Entrusting our elections – and thus our democracy – to private corporations would be reckless, even if those corporations had proven track records of competence, integrity, and ethical behavior. But information easily within reach in the public domain shows that corporations controlling our elections have long histories of unethical, deceitful, and even illegal behavior.

Entrusting our elections to untrustworthy corporations is beyond reckless.

In a 2007 investigation into how well the voting system vendors attempting to sell equipment to New York State (Diebold, ES&S, and Sequoia) complied with the state's requirements for "responsible contractors," the author found that none of the vendors met the criteria.<sup>72</sup> The information that follows summarizes a **small sampling of the findings** that are explained in more detail in that report and includes findings about Hart InterCivic as well as Microvote, a company with a smaller market share.

### ***Diebold Election Systems, Inc.***

**Formal Complaints.** December 13, 2005. A Securities Fraud Class Action suit was filed against Diebold, Inc. naming eight top executive officers in the company as co-defendants. The suit was filed by plaintiff Janice Konkol, alleging securities fraud against the North Canton, Ohio-based manufacturer of voting systems and ATM machines on behalf of investors who owned shares of Diebold stock and lost money due to an alleged fraudulent scheme by the company and its executives to deceive shareholders during the "class period" of October 22, 2003 through September 21, 2005.<sup>73</sup>

In the first quarter of 2006, the Securities and Exchange Commission began an informal investigation and converted it to a formal investigation in the second quarter. As of March 31, 2006, there were 10 outstanding lawsuits against Diebold, charging SEC violations.<sup>74</sup> On October 20, 2006, several pending lawsuits were consolidated.<sup>75</sup>

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<sup>71</sup> **FBI Talks to Ex-Shoup Exec; Voting Machine Testimony Resumes.** July 11, 1990. BY: Terry Keeter; The Commercial Appeal. Archived at: <http://www.madcowprod.com/shoupsoupadupe.htm>.

<sup>72</sup> **Voting System Companies Fail to Meet New York State's Requirements for "Responsible Contractors."** July 10, 2007. by Ellen Theisen, VotersUnite.Org. <http://www.votersunite.org/info/IrresponsibleVendors.pdf>.

Note: Liberty Election Systems was included in the 2007 study, but is not mentioned in this one since none of its equipment is currently installed in the United States. See also two letters to New York State officials from Andi Novick, Esq. <http://www.votersunite.org/info/VendorsProhibited.pdf> and

<http://www.votersunite.org/info/UpdatedVendorIrresponsibility807.pdf>

<sup>73</sup> [http://securities.stanford.edu/1035/DBD05\\_01/20051213\\_f01c\\_052873.pdf](http://securities.stanford.edu/1035/DBD05_01/20051213_f01c_052873.pdf)

<sup>74</sup> <http://www.sec.gov/Archives/edgar/data/28823/000095015206004170/119791ae10vq.htm#111>

<sup>75</sup> [http://www.milbergweiss.com/files/tbl\\_s47Details%5CFileUpload265%5C228%5CDieboldLPDecision.pdf](http://www.milbergweiss.com/files/tbl_s47Details%5CFileUpload265%5C228%5CDieboldLPDecision.pdf)

**Civil Fines and Injunctions Imposed by Governmental Agencies.** Alameda County, California. March, 2005. Diebold paid \$2.6 million to settle a false claims lawsuit filed by private citizens, Alameda County, and the California Attorney General.

A Qui Tam false claims lawsuit was filed against Diebold Election Systems on behalf of Alameda County, California by Bev Harris, Executive Director of Black Box Voting, and Jim March, a board member of Black Box Voting.

In September, 2004, California's Attorney General Bill Lockyer joined in the false claims suit, saying that he was suing Diebold over fraudulent claims he believes the company has made with regards to their electronic voting machines. In November 2004, Diebold announced its intent to settle, and the case was formally settled in March 2005, calling for Diebold to pay a total of \$2.6 million.<sup>76</sup>

**Hiring Key Personnel With Criminal Convictions.** Seattle, Washington. December 2003.

Investigative journalist Bev Harris announced her discovery that a Diebold programmer, Jeffrey Dean, had been convicted of stealing money by tampering with computer records. According to a public court document released before Diebold hired him, Dean served time in a Washington state correctional facility for stealing money and tampering with computer files in a scheme that "involved a high degree of sophistication and planning."<sup>77</sup>

**Less than Satisfactory Performance.** 1998 through July 2008. Failures of hundreds of Diebold machines were reported in the news across the United States. A partial list includes such problems as tabulation errors, vote-switching on electronic voting machines, malfunctioning voter access cards, breakdowns on election day, paper jams, data transfer failures, and excessively high undervotes (ballots failing to register a vote).<sup>78</sup>

### *Election Systems & Software (ES&S)*

**Violations of State Laws, Civil Fines and Injunctions, Ethical Violations.** March, 2004.

Indiana. The election commission discovered that ES&S had installed an uncertified version of firmware in the iVotronic electronic voting machines in four counties. When confronted, representatives agreed to reinstall the certified version. Then the commission learned that the certified version didn't tabulate the votes correctly, so they allowed the use of the uncertified version but required ES&S to put up a \$10 million bond to insure against problems and lawsuits. Election Commissioner Brian Burdick, said:<sup>79</sup>

I just think I was absolutely lied to by your CEO and I'm more than on the slow burn about it. I sat in this room and you all lied to me.

In April of 2004, specifically in response to this unethical behavior of ES&S, the Indiana State legislature passed a law providing penalties for voting machine vendors who act on their own initiative without the permission of the state.<sup>80</sup>

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<sup>76</sup> **Attorney General Lockyer Announces \$2.6 Million Settlement with Diebold in Electronic Voting Lawsuit.**

Attorney General's November 10, 2004 Press Release. <http://ag.ca.gov/newsalerts/release.php?id=843>

<sup>77</sup> **Con Job at Diebold Subsidiary.** Wired News. December 17, 2003. by AP.

[http://www.wired.com/news/evote/0,2645,61640,00.html?tw=wn\\_tophead\\_3](http://www.wired.com/news/evote/0,2645,61640,00.html?tw=wn_tophead_3)

<sup>78</sup> **Diebold in the News – A Partial List of Documented Failures.** Compiled by VotersUnite.

<http://www.votersunite.org/info/Dieboldinthenews.pdf> and the online problem log, maintained by VotersUnite.

<http://www.votersunite.org/electionproblems.asp>

<sup>79</sup> **Election Commission Bails Out Voting Machine Maker In Time for May Primary.** March 11, 2004;

<http://www.verifiedvotingfoundation.org/article.php?id=1529>

<sup>80</sup> **Penalties Established for Voting Machine Companies That Don't Deliver.** April 14, 2004;

<http://www.verifiedvotingfoundation.org/article.php?id=1846>



In August of 2005, Indiana imposed severe economic penalties on ES&S when the company, once again, installed uncertified software in Marion County's voting systems. ES&S paid the county \$1.2 million to settle a lawsuit.<sup>81</sup>

**Breach of Contract.** April, 2006. Oregon. Secretary of State Bradbury sued ES&S for breach of contract and nullified the contract. Secretary Bradbury said:<sup>82</sup>

We will not leave our elections in the hands of companies that do not follow through on their obligations, and we will not be coerced into altering our contracts.

The suit was settled out of court, with ES&S compensating the state in tabulating equipment.<sup>83</sup> (See page 48 for the alternative Oregon developed.)

**Formal Complaints Filed by Governmental Agencies.** May 2006. West Virginia. Secretary of State Betty Ireland filed a formal complaint against ES&S regarding its poor performance. The state's press release said, in part:<sup>84</sup>

ES&S's delays in programming ballots for the new electronic voting machines placed great hardship on state and county election officials in getting ready for the May 9th Primary Election.

**Less than Satisfactory Performance.** 1996 through July 2008. Dozens of reports of ES&S equipment failures were in the news across the United States. A partial list (over 100 reports) includes such problems as ballot programming errors that affected outcomes, vote-flipping on selection screens and review screens, breakdowns on election day, battery failures, vote counts that reached 32,000 and began decreasing, malfunctioning vote data cartridges, contests that failed to appear on computer ballots, screen freezes, data transfer failures, electronic ballots irretrievably lost, excessive and unexplainable undervote rates.<sup>85</sup>

### *Sequoia Voting Systems*

**Criminal Indictments/ Convictions of Key Personnel.** David Philpot, Sequoia's exclusive agent in Louisiana, was convicted of bribery in a 1999 kickback scandal. Phil Foster, a Sequoia salesman indicted in 2001 by a grand jury for related crimes, had been granted immunity for his testimony in the scandal and was not tried. Foster has since risen in the company and at present is serving as the Vice President Administration & Strategies.<sup>86</sup> He served on the Palm Beach County Election Technology Advisory Committee, from September 2005 through May 2006 and continues to advise the county's elections supervisor.<sup>87</sup>

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<sup>81</sup> **Team 4 Investigates Electronic Voting.** WTAE-TV. February 17, 2006.

<http://www.thepittsburghchannel.com/news/7161565/detail.html>, and

**County struggles with voting quandary.** Daily Journal News. May 14th, 2004. By Bryan Corbin.

<http://www.verifiedvotingfoundation.org/article.php?id=2095>

<sup>82</sup> <http://www.sos.state.or.us/executive/pressreleases/2006/0420.html> (press release)

[http://www.votetrustusa.org/pdfs/Oregon/Oregon\\_ESSComplaint\\_041906.pdf](http://www.votetrustusa.org/pdfs/Oregon/Oregon_ESSComplaint_041906.pdf) (lawsuit)

<sup>83</sup> Related to the author by Gene Newton, Oregon's HAVA program director.

<sup>84</sup> <http://www.wvsos.com/pressoffice/historical/051006essproblems.pdf> (Press Release)

**Ireland Files Complaint Over Voting Machines: Vendor ES&S blamed for causing hardships for counties.** State Journal. May 10, 2006. By Jack Kane. <http://www.statejournal.com/story.cfm?func=viewstory&storyid=10786>

<sup>85</sup> **ES&S in the News – A Partial List of Documented Failures.** Compiled by VotersUnite.

<http://www.votersunite.org/info/ES&Sinthenews.pdf> and the online problem log, maintained by VotersUnite.

<http://www.votersunite.org/electionproblems.asp>

<sup>86</sup> **Exec's indictment hits Oakland vote firm.** San Francisco Business Times. November 16, 2001. John Rhine.

<http://sanfrancisco.bizjournals.com/sanfrancisco/stories/2001/11/19/story4.html>

<sup>87</sup> **Palm Beach County Election Technology Advisory Committee Meeting Minutes.** September 15, 2005

[http://www.votersunite.org/info/PBC\\_ETAC\\_Meeting\\_Minutes.pdf](http://www.votersunite.org/info/PBC_ETAC_Meeting_Minutes.pdf) and

**Ethical Violations.** November 2002. Bernalillo County, New Mexico. Vice President Howard Cramer failed to inform New Mexico officials of a known software bug that tabulated votes incorrectly. The Albuquerque Tribune reported:<sup>88</sup>

Although about 48,000 people had voted early on 212 Sequoia-supplied touch-screen computers at six sites in the county, the initial figures given to the commissioners indicated that no race - not even for governor - showed a total of more than about 36,000 votes.

Sequoia admitted that the same error had been encountered in Clark County, Nevada, several weeks earlier, but Sequoia had not informed the election officials in Bernalillo County.

**Ethical Violations.** November 2006. Denver. After Sequoia's electronic pollbook system caused chaos in the general election, Sequoia's Vice President Howard Cramer lied to the mayor's panel in an attempt to blame the election commissioners for Sequoia's failure.

Cramer attempted to convince the mayor's panel that the software Sequoia developed for Denver was not intended as an electronic pollbook, but documents proved that Sequoia had been commissioned to build software precisely for that purpose.<sup>89</sup>

**Less than Satisfactory Performance.** 1996 through July 2008. Dozens of reports of Sequoia equipment failures were reported in the news across the United States. A partial list includes such problems as votes dropped on touch screen systems, screen freezes, tabulation errors, vote-switching on electronic voting machines, breakdowns on election day, contests failing to appear on computer ballots, paper jams, data transfer failures, malfunctioning vote data cartridges, battery failures, and software that lost votes during tabulation.<sup>90</sup>

### *Hart InterCivic*

Hart InterCivic was not mentioned in the 2007 study, since it was not actively marketing in New York State at the time. However, evidence shows that it, too, falls short of accepted criteria for "responsible contractors."

**Ethical Violations.** In mid-2004, William Singer, a former technical specialist with Hart InterCivic, wrote letters to the Texas and Ohio Secretaries of State, warning them of fraudulent claims and misrepresentations committed by Hart InterCivic.

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**Palm Beach County Election Technology Advisory Committee Final Report.** August 23, 2006.

[http://www.votersunite.org/info/PBC\\_ETAC\\_finalreport.pdf](http://www.votersunite.org/info/PBC_ETAC_finalreport.pdf), and

**County commissioner calls for inquiry into 'mishaps and irregularities in vote tabulation'**,

South Florida Sun-Sentinel, July 3, 2008, by Josh Hafenbrack

<http://www.sun-sentinel.com/news/local/palmbeach/sfl-0703countyvotes,0,6840356.story>,

Archived at: <http://www.votersunite.org/article.asp?id=7813>

<sup>88</sup> **Election results certified after software blamed.** Albuquerque Tribune; November 19, 2002; By Frank Zoretich, Tribune Reporter. [http://www.abqtrib.com/archives/news02/111902\\_news\\_vote.shtml](http://www.abqtrib.com/archives/news02/111902_news_vote.shtml)

<sup>89</sup> **City asked for pollbook software; Documents refute vendor.** December 1, 2006. Denver Post. By George Merritt. [http://www.denverpost.com/extremes/ci\\_4752696](http://www.denverpost.com/extremes/ci_4752696). Archived at <http://www.votersunite.org/article.asp?id=6922>

<sup>90</sup> **Sequoia in the News – A Partial List of Documented Failures.** Compiled by VotersUnite.

<http://www.votersunite.org/info/Sequoiaintheneeds.pdf> and online problem log, maintained by VotersUnite.

<http://www.votersunite.org/electionproblems.asp>

When neither Secretary responded, Mr. Singer wrote to them again, and again they did not respond. So, in 2006, Mr. Singer filed a federal false claims lawsuit (Qui Tam), "...to recover penalties and damages arising from false statements Hart made regarding the accuracy, testing, reliability, and security of its voting system,..."<sup>91</sup>

The lawsuit remained sealed until March 2008, when the U.S. Attorney's office decided it would not join Singer in the litigation. In July 2008, the U.S. Supreme Court decision in "Rockwell Intl Corp. v. U.S." made it financially prohibitive for Mr. Singer and his law firm (Levin Papantonio Thomas Mitchell Echsner & Proctor, P.A ) to continue the suit.<sup>92</sup>

**Less than Satisfactory Performance.** 1996 through July 2008. Dozens of reports of Hart InterCivic's equipment failures were reported in the news across the United States. A partial list includes problems such as machine breakdowns causing thousands of voters to be disenfranchised, ballots accepted by the machine before the voter voted, machines presenting choices for parties with no candidates, machines failing to present all the candidates on the screen, candidates' names truncated on the screen, vote-switching, screen freezes, default selection for President, failure to read paper ballots, paper ballots scanned incorrectly, inability to handle high volume of write-in votes, ballot programming errors, and one machine that began literally smoking during an election.<sup>93</sup>

### *Microvote*

Microvote has only a minor share of the voting machine industry. However, it is notable that the history of this vendor is replete with instances of untrustworthy behavior.

**Civil Fines.** Montgomery County, Pennsylvania sued Microvote after the machines malfunctioned in elections in 1994 and 1995. The attorney's press release gives more details.

The County contended that the voting system malfunctioned after the voting machines shut down randomly and unpredictably as a result of their microcomputer chips sensing internal power surges emitted by the motors that scrolled the ballot pages. This resulted in long lines, in voters leaving polling stations before they voted, and in lost votes. In addition, after the polls closed, the software malfunctioned when counting the votes, causing Microvote employees to report the wrong results to the media.<sup>94</sup>

The press release also states that the jury returned a verdict against Microvote and Westchester Fire Insurance Company in excess of \$1,048,500. An appellate court upheld the verdict.

**Violations of State Laws.** In July 2007, Microvote was fined \$350,000 in civil penalties and investigative costs for 198 violations of Indiana election law after it was discovered that MicroVote sold and installed uncertified equipment without functions required by Indiana State election law.<sup>95</sup>

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<sup>91</sup> [http://www.bradblogger.com/Docs/Singer\\_v\\_HartInterCivic\\_OriginalComplaint.pdf](http://www.bradblogger.com/Docs/Singer_v_HartInterCivic_OriginalComplaint.pdf)

<sup>92</sup> **Whistleblower: Voting Machine Company Lied to Election Officials About Reliability of Machines.** Wired Blog Network. March 27, 2008. By Kim Zetter. <http://blog.wired.com/27bstroke6/2008/03/whistleblower-v.html> and <http://www.bradblogger.com/?p=2544> and <http://www.bradblogger.com/?cat=364>

<sup>93</sup> **Hart InterCivic in the News – A Partial List of Documented Failures.** Compiled by VotersUnite. <http://www.votersunite.org/info/Hartinthenews.pdf> and online problem log, maintained by VotersUnite. <http://www.votersunite.org/electionproblems.asp>

<sup>94</sup> **Elliott Greenleaf Wins in U.S. Court of Appeals, Affirming Multi-Million Dollar Settlement and Jury Verdict.** Law Offices of Elliott Reihner & Siedzikowski, P.C. July 20, 2003. <http://www.elliottreihner.com/July2003-1.html>

<sup>95</sup> **Company fined for election violations.** IndyStar.com. July 27, 2007. By Mary Beth Schneider <http://www.votersunite.org/article.asp?id=7182>

In spring of 2004, WISH TV in Indianapolis conducted an interview with executives from Microvote, whose voting systems were used in Pennsylvania, Indiana, and North Carolina. Information from that interview reveals more about the untrustworthiness of the company's executives and other personnel.<sup>96</sup>

### **Criminal Indictments/ Convictions of Key Personnel.**

**I-Team:** Tell us about Mecklenberg County, North Carolina, a federal investigation and federal indictments against the county's election administrator and MicroVote salesman Ed O'Day. He was convicted of bribery and kickbacks made over a seven-year period, according to stories in the Charlotte Observer.

**Ries Jr.** [President of MicroVote]: Ed O'Day was an independent agent of MicroVote – not a direct employee but a manufacturer's representative for our product in North and South Carolina. He was convicted of bribing a public official, something we had no knowledge of, nor did we have any input. Unfortunately he's still out selling equipment to election officials, which surprised us all.

### **Ethical Violations.**

**I-Team:** What about Gary Greenhalgh, a former Federal Election Commission official who was your national sales director. You sued him in 1997. Why?

**Ries Jr.:** Gary Greenhalgh, on the other hand, was a direct employee. Trade secret violations there. Probably the most damaging, he was actually selling the equipment being released from Montgomery County to our customers on the side. And it violated his working contract with us that he was selling outside of MicroVote's jurisdiction.

Note: As of September, 2004 Gary Greenhalgh became Vice President of ES&S.<sup>97</sup>

**Less than Satisfactory Performance.** 1994 through July 2008. In addition to breakdowns and malfunctions, newspapers reported that Microvote equipment **failed to tabulate votes correctly** in these eleven counties:<sup>98</sup>

Montgomery County, Pennsylvania (1995, 1996)	Pender County, North Carolina (2004)
Putnam County, Tennessee (2002)	Sumner County, Tennessee (2005)
Boone County, Indiana (2003)	Grant County, Indiana (2006)
Grant County, Indiana (2004)	Delaware County, Indiana (2006)
Jasper County, South Carolina (2004)	Lake County, Indiana (2006, 2007)
Mecklenburg County, North Carolina (2004)	

<sup>96</sup> **An I-Team 8 Investigation: Excerpts from Interviews with MicroVote Executives**, WISH TV 8 I-Team, By Rick Dawson and Loni Smith McKown, March 2004. <http://www.wishtv.com/Global/story.asp?S=1647598>  
Archived at: <http://www.votersunite.org/article.asp?id=7814>

<sup>97</sup> <http://www.cabellcounty.org/minutes/2004/MIN%209-9-04.htm>

<sup>98</sup> **Microvote in the News – A Partial List of Documented Failures.** Compiled by VotersUnite. <http://www.votersunite.org/info/MicroVoteinthenews.pdf> and online problem log, maintained by VotersUnite. <http://www.votersunite.org/electionproblems.asp>

## ***Gouging Made Easy: “they already bought the system.”***

*As local elections become more dependent on vendor support, the vendors charge exorbitant prices.*

While HAVA paid for much of the initial cost of new voting systems, local governments are left on their own to pay for annual license fees, maintenance agreements, services, and upgrades required for the systems they already bought.

### **Diebold Internal Communications.**

A normally unstated policy that appears to be adopted by all the voting system vendors is clearly, if offensively, expressed in a January 3, 2003 internal Diebold email sent by Ken Clark, principal engineer for Diebold Election Systems (now “Premier”) and later made publicly available on the Internet. Mr. Clark was responding to a then-recent University of Maryland study of the Diebold equipment and the idea of adding voter-verifiable paper record (“receipt”) printers to each Diebold machine in Maryland.<sup>99</sup>

Mr. Clark’s initial internal email read (highlighting in the original):

There is an important point that seems to be missed by all these articles: *they already bought the system*. At this point they are just closing the barn door. Let’s just hope that as a company we are smart enough to charge out the yin if they try to change the rules now and legislate voter receipts.

When asked to clarify the meaning of “out the yin”, Mr. Clark wrote further:

Short for ‘out the yin-yang’. ...

Any after-sale changes should be prohibitively expensive. Much more expensive than, for example, a university research grant.

### **Webster County, Iowa.**

On-going fees charged by ES&S have doubled the cost of elections. In 2005, the county budgeted \$49,000 for elections, but in 2007 the cost skyrocketed to \$110,700 for only 29 precincts and 25,300 registered voters. According to County Auditor Carol Messerly the **increase was primarily because of the maintenance contracts** for the new optical scanners and ballot-marking devices.<sup>100</sup> At this point, the county saw no realistic alternative to paying the exorbitant costs of maintenance since they had already bought the system.

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<sup>99</sup> ‘Gouging’ memo leaves Diebold red-faced: Paper trail? Sure, that’ll be \$1200 for a printer

The Register. December 16, 2003. By Andrew Orłowski in San Francisco.

[http://www.theregister.co.uk/2003/12/16/gouging\\_memo\\_leaves\\_diebold\\_redfaced/](http://www.theregister.co.uk/2003/12/16/gouging_memo_leaves_diebold_redfaced/), and

**E-mail stolen from Diebold is a call to gouge Maryland.**

The Gazette. December 10, 2003 by Steven T. Dennis, Staff Writer.

<http://www.gazette.net/200350/princegeorgescty/state/192070-1.html>

Archived at <http://www.votersunite.org/article.asp?id=7803>

The email exchange can be found at:

<http://www.sims.berkeley.edu/~ping/diebold/lists/support.w3archive/200301/msg00015.html>

<sup>100</sup> **Webster County auditor: Election changes coming.** The Messenger. July 16, 2008. By Bill Shea.

<http://www.messengernews.net/page/content.detail/id/507428.html?nav=5010>.

Article archived at <http://www.votersunite.org/article.asp?id=7790>.

Precinct information at <http://www.sos.state.ia.us/pdfs/elections/CoVoteSystem.pdf>

## Ohio.

In early 2006, after 47 counties in Ohio had already bought the system from Diebold Election Systems, Inc., Diebold offered to sell service coverage for the AccuVote touch-screen machines the counties had purchased.

In March 2006, the Columbus Dispatch reported that, “**The cost of service contracts for new touch screen voting machines has left county elections officials across Ohio in sticker shock.**” The state had a five-year warranty contract for the equipment itself. The service contract at issues was additional – for technical service and support only.<sup>101</sup>

The table below gives the examples the newspaper quoted for a **one-year** service warranty offered by Diebold Election Systems to service its touch-screen voting machines. The table also shows the number of registered voters in each county and the turnout in the November 2006 election.<sup>102</sup> The cost per registered voter for the full service contract for just one year is a cost that must be added onto the cost of administering an election:

<u>County</u>	<u>Full</u>	<u>Partial-1</u>	<u>Partial-2</u>	<u>Reg Voters</u>	<u>'06 Turnout</u>	<u>Cost/Voter</u>
Holmes	\$50,000	\$35,000	\$15,000	18,206	8,639	<b>\$2.74</b>
Perry	\$50,000	\$35,000	\$15,000	21,260	13,368	<b>\$2.35</b>
Fairfield	\$90,000	\$60,000	\$21,000	96,593	55,657	<b>\$0.93</b>
Montgomery	\$110,000			375,610	219,153	<b>\$0.29</b>

“It just about blew our minds away,” said Alice Nicolita, director of the [Fairfield] county Board of Elections.

In Perry County, the Diebold service contract would cost two and a half times as much per voter as in Fairfield County.

“We just do not have the money,” said Janie DePinto, elections board director.

Holmes County officials, too, were in shock.

“This completely blind-sided the county,” said Ray Feikert, a Holmes County commissioner in northeastern Ohio. “It’s kind of a back-door expense that no one saw coming.”

Steven Harsman, president of the Ohio Association of Election Officials and director of the Montgomery County Board of Elections, understood the difficulty of running an election on new, complicated, unfamiliar electronic equipment. He pointed out how Diebold now had the counties over a barrel:

“The irony is that the small counties will have a bigger need for these contracts, but they won’t have the money to pay for them,” Harsman said. “Elections boards are going to county commissioners, and commissioners are kicking and screaming. It’s not a pretty situation at all. But when the dust settles, a high percentage of counties are going to need this, and county commissioners are going to have to find the funding.”

<sup>101</sup> **Voting machine support costly. Elections boards and counties stunned by expense; state aid for training ends after primary.** THE COLUMBUS DISPATCH. March 05, 2006. By Mary Beth Lane.

<http://www.columbusdispatch.com/live/contentbe/dispatch/2006/03/05/20060305-C1-00.html>

Archived at <http://www.votersunite.org/article.asp?id=6560>

<sup>102</sup> Voter Turnout and Registration for the November 2006 election are from:

<http://www.sos.state.oh.us/SOS/elections/electResultsMain/2006ElectionsResults/06-1107turnout.aspx>

## *Our Way or the Highway.*

*When threatened, vendors exert claims of proprietary control to bring independent election officials back into line.*

Although voting system vendors control many aspects of public elections, they are not obligated to respond to open records requests. Insisting that their systems are protected by trade secret laws, they aggressively resist independent investigations, relenting only when state laws require it. In Florida, three vendors cooperated in using HAVA deadlines to gain control over an election official who defied them and independently tested one of their systems.

**Leon County, Florida, 2005.** Ion Sancho, Supervisor of Elections, authorized two computer experts to test the county's Diebold equipment. The tests were arranged by Black Box Voting and conducted by Florida computer scientist Dr. Herbert Thompson and Finnish security expert Harri Hursti. Both tests showed that the system could easily be manipulated to report inaccurate results, without detection:<sup>103</sup> Mr. Sancho said, in part:

Granted the same access as an employee of our office, it was possible to enter the computer, alter election results, and exit the system without leaving any physical record of this action. ... It was also demonstrated that false information or instructions could be placed on a memory card ... and create false results or election reports.<sup>104</sup>

Mr. Sancho began to look elsewhere for the voting equipment his county needed to comply with the HAVA's accessibility requirement, but the only other vendors (ES&S and Sequoia) with equipment certified for use in Florida refused to do business with Leon County. The county was required by federal law to purchase accessible equipment immediately.

Diebold was the only option remaining. In a February 27 meeting held by the county commissioners with Diebold and without Mr. Sancho, Diebold refused to sell any more equipment to Leon County because of the "unauthorized testing" Mr. Sancho had conducted.<sup>105</sup>

In March, Florida's then-Attorney General Charlie Crist promised to investigate possible anti-trust violations by the three vendors, but failed to carry through on the investigation.

Also in March, Mr. Sancho proposed to agree that he would not test any Diebold equipment unless Diebold "gave permission" and could participate in the testing.<sup>106</sup> Diebold agreed. In April, the county signed a contract to purchase Diebold's DREs. The contract explicitly prevents Mr. Sancho from hiring experts to conduct independent investigation of the system.

4.5 Customer will not allow third parties who are not employees of Customer, or authorized DESI Technicians access to the System for purposes of inspection, testing, review or evaluation.<sup>107</sup>

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<sup>103</sup> **Florida: Ion Sancho Fights Back.** March 08, 2006. By Susan Pynchon, Florida Fair Elections Coalition. [http://votetrustusa.org/index.php?option=com\\_content&task=view&id=1015&Itemid=113](http://votetrustusa.org/index.php?option=com_content&task=view&id=1015&Itemid=113), and <http://www.bbvforums.org/cgi-bin/forums/board-auth.cgi?file=/1954/15595.html>, and the video at <http://www.youtube.com/watch?v=PiiaBqwqkXs>, from 1:15 to 5:42.

<sup>104</sup> **Rep. McKinney (D-GA) Discusses Hack as Diebold Attacks Elections Official.** By: Matthew Cardinale. YubaNet. Jun 27, 2005. Archived at <http://www.votersunite.org/article.asp?id=5611>

<sup>105</sup> Board of [Leon] County Commissioners. Tuesday, February 28, 2006 Meeting - Follow-Up Memo <http://www.leoncountyfl.gov/ADMIN/Agenda/all.asp?id=309>

<sup>106</sup> Board of [Leon] County Commissioners. Tuesday, March 28, 2006 Meeting - Follow-Up Memo <http://www.leoncountyfl.gov/ADMIN/Agenda/all.asp?id=315>, see video at 2:45.

<sup>107</sup> [http://accurate-voting.org/contracts/FL/Leon/FL\\_leon\\_2006.pdf](http://accurate-voting.org/contracts/FL/Leon/FL_leon_2006.pdf), page 3.

## What Can be Done

### *Case Study of Luzerne County, Pennsylvania.*

*With training and knowledge, and despite ES&S's repeated attempts to undermine the election structure, the election director oversees the goods and services of the vendor.*

In January, 2006, Luzerne County received an ultimatum from the state: upgrade the voting system before the May 16 primary election or lose the \$3 million in federal funding the county needs to comply with HAVA.<sup>108</sup> The county election board immediately and unanimously decided to purchase new voting systems from ES&S – before the final purchase price was even negotiated.<sup>109</sup>

Negotiations began and ES&S agreed to deliver 750 voting machines and the training needed to use them, but in mid-March, just two months before the May 16 primary, ES&S abruptly backed out of the agreement.<sup>110</sup>

Talks stumbled when Piazza [the county election director] began to push the company for details about the cost of extended warranties and service arrangements, among other issues.

“When I asked about it, I was told we could talk about that later,” Piazza said, adding he had a bad gut feeling there was an attempt to “keep information from our county.”

“It wasn’t something that I wanted to talk about later. It was something that I wanted to talk about now.”

Given the exorbitant costs ES&S was known to charge for warranties, service, and maintenance, Mr. Piazza attempted to settle the costs ahead of time. But ES&S had other intentions.

With the ultimatum from the state and the \$3 million that hung in the balance, the county was in a time crunch. Eventually, “after letters from the county’s attorneys,” ES&S agreed to provide 316 machines in time for the May 16 election – more than 400 short of the order.<sup>111</sup>

The \$2.4 million contract included 750 iVotronic voting machines (the rest to be delivered in time for the November 2006 election), the training needed to operate them, and a one-year warranty for the equipment. But ES&S representatives repeatedly refused to discuss warranty arrangements for future years.

A year after the original purchase, once the warranty had expired, ES&S insisted that the county was contractually obligated to purchase a three-year extended warranty for a total cost of around \$300,000. Mr. Piazza balked. On July 19, 2007, he wrote a letter to the Secretary of the Commonwealth and the State Bureau of Commissions, Elections and Legislation. In the letter,

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<sup>108</sup> **County gets vote machine ultimatum: Federal funds will be lost if electronic models not ready for May primary, state says.** Knight Ridder/Tribune Business News. January 25, 2006.  
<http://news.manta.com/articles/description/2006010018000531-0304>

<sup>109</sup> **County election board unanimous on selection of electronic voting machine.** CitizensVoice.com February 1, 2006. BY James Conny Staff Writer. Archived at <http://www.votersunite.org/article.asp?id=7794>.

<sup>110</sup> **Voting machine talks break down.** The Citizen’s Voice. March 15, 2006 By Tom Long.  
<http://www.votersunite.org/article.asp?id=6552>

<sup>111</sup> **Luzerne County gets ready for electronic voting.** CitizensVoice.com. March 31, 2006. By Tom Long Staff Writer.  
<http://www.votersunite.org/article.asp?id=7793>



Mr. Piazza requested financial aid to pay for the maintenance that ES&S claimed he was obligated to purchase.

Mr. Piazza wrote that his county had been “at the zero hour” for delivery and ES&S was still refusing to discuss future costs. It appears that ES&S used a deadline to its advantage and later misled the county into believing it was obligated to purchase an extended warranty when, in fact, it was not. Mr. Piazza also pointed out that these tactics, which ES&S uses to mine the taxpayers, are not unique to Luzerne County. He wrote, in part (highlighting added):

Our county’s five-year plan for economic stability and continued growth unfortunately holds no room for the kind of expense that ES&S is all but demanding we pay. Further, the encumbrance of \$300,000 is not one that the county had any opportunity to consider at the time of the mandated switch to electronic voting. That is not to say, however, we did not try. We asked for ... the details of an extended warranty as early as the State of Ohio in March of 2006. We were told by the vendors at that time, especially ES&S, that there would be sufficient time to talk about warranty arrangements after the system was in place. We were at the zero-hour when the system was finally delivered and were again told that the warranty coverage could be negotiated by the county when time permitted. Today, however, that is not the case. The fact is, ES&S refuses to lower the pricing structure, is unwilling to restructure the coverage plan to meet the needs of the counties and **ES&S has not answered our repeated requests for the exact terms and conditions of the extended warranty plan.** As it turns out, ES&S misleads its customers in the Commonwealth, and judging from conversations with other election directors at a recent election officials’ conference in Portland, Oregon – other jurisdictions as well.

In addition to not being able to meet the financial burden that ES&S is asking us to meet, we cannot individually deal with such a large, multi-national corporation and the **mix of deception this company promulgates** and respectfully ask the Commonwealth, specifically, the Department of State, for its leadership in insuring that the voting-system vendors doing business here do not have the opportunity to threaten a democratic process with **such unsavory business practices that vendors, such as ES&S, seemingly have a deep commitment to employing.**<sup>112</sup>

In a July 2008 interview with Mr. Piazza, the author learned that subsequently, he discovered that the contract he signed with ES&S – as opposed to the new contract ES&S was asking him to sign – did NOT obligate the county to purchase any extended warranty at all. This left Mr. Piazza free to decide how much support he wanted to purchase from ES&S and how much of the maintenance and support he and his staff would provide.

Mr. Piazza decided to purchase minimal support. Instead of paying ES&S over \$100,000 a year to do what he and his staff can do with greater expertise, Mr. Piazza has a contract to pay ES&S \$17,300 a year for two maintenance/support services:<sup>113</sup>

- ◆ Hardware maintenance for the M-650 optical scanners used to tabulate absentee ballots. This includes such mechanical tasks as cleaning, calibrating, ensuring the sensors are working correctly and the speed is correct.
- ◆ Software technical support, which includes consultation over the phone.

<sup>112</sup> [http://www.votersunite.org/info/LuzerneCountyPA\\_ESS\\_LetterToDeptOfState\\_071907.pdf](http://www.votersunite.org/info/LuzerneCountyPA_ESS_LetterToDeptOfState_071907.pdf)

<sup>113</sup> **Breaking News: Elections bureau finalizes warranty deal for voting machines.** Citizen’s Voice. October 16, 2007. By Michael P. Buffer, CitizensVoice Staff Writer. Archived at <http://www.votersunite.org/article.asp?id=7335>.

Mr. Piazza's staff performs the same 14-point inspection process on the iVotronic e-voting machines that ES&S would have charged additional high costs to do under the company's expensive "Gold Plan." Thus, Mr. Piazza said he is confident that the work is being performed more carefully and with more knowledge and attention than if it were done by ES&S technicians — and at a much lower cost.

During the interview with the author, Mr. Piazza stated that he would never pay ES&S for firmware maintenance or firmware updates, since updates are only needed when the original firmware is flawed. **He said he would take ES&S to court before he would pay the company to correct its own mistakes.**

He also pointed out a few other ways in which he maintains responsibility for his own election structure, in spite of ES&S's attempts to take control.

- ◆ The assistance of ES&S technicians is not welcome in the elections office, or even in the county, during an election. Mr. Piazza has trained himself and his staff thoroughly, and — after allowing ES&S election-day support in prior elections — he now knows that his personnel are significantly more capable of using the ERM system to retrieve results and of providing troubleshooting in the field than the per diem technicians ES&S hires on contract and quickly trains.
- ◆ Mr. Piazza's staff pre-codes all the ballot definitions, ensuring that the data is correct before sending it to ES&S for the final phase of ballot programming. Then his staff carefully proofs ES&S' work to find any errors that either ES&S or the county may have made. As a result, he feels confident in the ballots and ballot programming because he has not simply handed responsibility over to ES&S. When asked why he sends it to ES&S at all (since he mentioned that he does know how to do the final phase), he said, "because if anything goes wrong, I don't want the company to be able to blame my county, as they have a tendency to do."
- ◆ Though he pays ES&S to create the test deck of ballots for the optical scanner, he and his staff spot-check them and also add some ballots of their own. He said he's happy to pay ES&S to hand-mark the thousands of ballots needed for a test deck rather than have his own staff spend their time on that job.
- ◆ Once the county receives the ballot programming back, they — not ES&S — burn the media for use in the election.
- ◆ After the election, he analyzes the results carefully, with charts and graphs, to see if the individual precinct results make sense — checking for precincts wildly different from previous elections or from what is expected, excessive undervotes, and any other anomalies that would suggest a ballot programming error or counting flaw.

Driven by the need to comply with federal and state law and by the dearth of available solutions, Luzerne County chose to depend on ES&S for equipment and ballot programming to administer elections. But Mr. Piazza has shed additional dependence by training himself and his staff to perform tasks other jurisdictions hand off to their vendors. As a result, Mr. Piazza is using ES&S rather than being used by them.

Because the structure of his elections is not dependent on the vendor's support, he is freer to challenge them when necessary, criticize them when appropriate, and even take them to court if need be.

## ***Case Study of Oklahoma.***

*The Secretary of the State Board of Elections bought the equipment and kicked the vendor out of the state.*

Michael Clingman, Secretary of the Oklahoma Board of Elections, testified at an Election Assistance Commission hearing on June 3, 2004. Excerpts from his testimony describe the system that had been in use for thirteen years (now seventeen years):

In 1990 and 1991 Oklahoma created and implemented the Oklahoma Election Management System.

... It integrates our statewide voter database with voting devices and training of all election personnel, from State and County Election Board Secretaries and staff to local precinct officials. The State Election Board owns and maintains the hardware and software which runs the system and the State maintains all equipment. The system manages election set-up, specifies the number of ballots needed, creates ballot styles, coordinates precinct and county compilation and reporting, and maintains election accounting.

... The Oklahoma Election Management System operates on a legacy system, the DEC VAX 4300. Software is written in Powerhouse, a fourth generation language, and the Optical Scan devices being used are Optech Eagles 3 PE. The devices have proven to be remarkably well-built, with relatively minimal device failures being occurring [sic].

... Oklahoma voters have indicated they have a great deal of confidence in our system. Candidates for office and our local press when investigating the reported results of an election are not normally interested in a machine recount; the request is normally to recount the paper ballots because most believe, it is the best evidence of the voter's intent. Paper ballots are retained for two years so the voters have confidence in the integrity of our elections.<sup>114</sup>

In 2004, the author spoke with Mr. Clingman about voting systems. He described the Oklahoma system even more simply. He said:

We bought the optical scanners and kicked the vendor out of the state.

It is notable that — in contrast to the multitude of problems in states that have allowed vendors to undermine their elections — Oklahoma has reported virtually no election problems in the years since HAVA:

- ◆ In the five years during which VotersUnite has been tracking media reports of election problems across the country, not one report has been obtained from Oklahoma.<sup>115</sup>
- ◆ In 2004, the Election Incident Reporting System (EIRS) tracked 75 calls from Oklahoma. Ten calls were from citizens who said the machine in the precinct was broken and they were putting ballots directly into a ballot box. The other 65 were questions about polling places, absentee ballots, and registration.<sup>116</sup>

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<sup>114</sup> **Written Testimony of Michael Clingman, Secretary, Oklahoma State Election Board.** June 3, 2004.

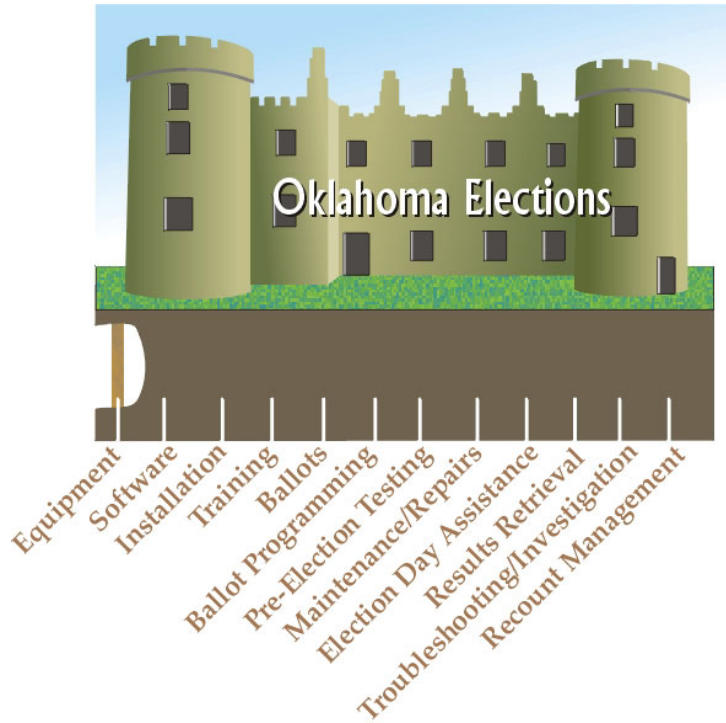
<http://www.eac.gov/News/meetings/060304/pres5-060304>

<sup>115</sup> <http://www.votersunite.org/electionproblems.asp?sort=date&selectstate=OK>

<sup>116</sup> <http://voteprotect.org/index.php?display=EIRMapState&tab=ALL&state=Oklahoma>

- ◆ In 2006, not one of the 1022 election day malfunctions reported to VotersUnite by the EIRS, Voter Action Hotline, and Pollworkers for Democracy was from Oklahoma.<sup>117</sup>

By taking responsibility for, and full control of, the elections in Oklahoma, the State Board of Elections has prevented the vendor undermining that threatens the election structure in every other state.



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<sup>117</sup> **E-Voting Failures in the 2006 Mid-Term Elections.** January 2007. by VotersUnite.Org, VoteTrustUSA, Voter Action, and Pollworkers for Democracy. <http://www.votersunite.org/info/E-VotingIn2006Mid-Term.pdf>. Detailed data: <http://www.votersunite.org/info/2006E-VotingReports.xls>

## ***Case Study of Curry County, New Mexico.***

*In the midst of vendor dependence facilitated by federal law and state decisions, the elections office maintains a contingency plan: counting the paper ballots by hand.*

In 2006, the New Mexico State Legislature passed a bill requiring all ballots to be cast on paper. Before then, 23 of the 33 counties in the state were using some type of electronic voting system. In order to comply with state law, those 23 counties had to replace their electronic machines. In order to comply with the Help America Vote Act of 2002, all the counties had to enhance their systems with some voting method that was accessible to voters with disabilities.

Since a state overhaul was required, state officials decided to purchase the same system statewide for all the counties: ES&S M100 optical scanners to tabulate paper ballots and AutoMark ballot-marking devices for people with disabilities. In October of 2006, the machines were delivered to Curry County, and the other New Mexico counties, for use in the November election.

In a July 23, 2008 interview with Coni Jo Lyman, Deputy Clerk of Curry County, the author learned what happened next – from the perspective of one of the people on the ground who has the responsibility to administer elections.

When the state purchased the equipment, the one-year warranty was equivalent to the ES&S’ “Gold Plan,” which promises full coverage for the machines, software, and support for all the counties. But, according to Ms. Lyman, the promise wasn’t fulfilled. She said that during the first year, ES&S didn’t fix even one broken machine – and there were quite a few sitting in the warehouse waiting for repairs. Further, she said they “held parts in hostage,” refusing to send them to the counties so they could do their own repairs. Mr. Lyman told the author:

ES&S has New Mexico over a barrel. They won’t fix the machines; they won’t train us to fix them; and they say if we open the hood the warranty is nullified.

Don Francisco Trujillo, New Mexico’s Deputy Secretary of State sees the situation somewhat differently. In a July 24, 2008 interview with the author, Mr. Trujillo said that ES&S did fulfill on their first year warranty, though delivery of some parts needed for repairs was delayed because ES&S had them on back order. Mr. Trujillo said that just before the warranty expired in October 2007, technicians inspected every piece of ES&S equipment across the state. Automated Election Services (AES),<sup>118</sup> the ES&S contractor for New Mexico, made all the necessary repairs.

Ms. Lyman, however, said that the inspection may not have included every machine. One of Curry County’s AutoMarks failed the 2006 testing and was taken to AES for repairs. Only in July 2008 did the county finally receive a replacement for it.

Once the warranty expired, ES&S offered the counties two maintenance and support plans. Coverage for a year, negotiated between the state purchasing department and ES&S, would cost the counties a total of \$1,106,000 for both contracts:

- 1) **\$306,000 for software and firmware support.** Mr. Trujillo said that the state agreed to pay for the first nine months of the software and firmware support, effective May 1, 2008. After that the counties will be encouraged to pay their share. This support includes “patches” to software or firmware written by ES&S, if flaws are found. (Contrast this policy with MicroSoft, which periodically sends out free patches to millions of Windows customers.)

The support also includes telephone consultation with ES&S and AES.

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<sup>118</sup> <http://www.electionpeople.com/aes.aspx>

But Ms. Lyman has found ES&S' telephone assistance less than satisfactory. She said:

The call is answered by a Tier 1 person, who transfers you to a Tier 2 person who hears that you have a problem and transfers you to a Tier 3 person, who writes up a trouble ticket. And by the time you get to talk to somebody who might know the software you're having a problem with, you're so angry you're ready to hang up.

Ms. Lyman said they find the software support from AES to be much more satisfactory. In the July 3, 2008 election, the Election Reporting Manager (ERM) incorrectly tabulated the votes it read from the memory cards. According to Curry County Election Coordinator Stephanie Boydston, **as they fed the precinct and absentee totals into the card reader, the totals kept increasing until they were "bigger than the number of eligible voters."**

To solve the problem, instead of using the ERM system to read the memory cards, county officials manually entered the results on the printouts from the individual scanners. A technician from AES took the computer back to the company for evaluation and discovered that some files were corrupted or missing, so AES re-installed the ERM system on the computer.

Since the county was covered by the new ES&S software agreement, Ms. Lyman could have called ES&S telephone support. But she explained why she wouldn't do that:

If we have a real problem, there's little point in calling "1-800-who-gives-a-crap."

According to Mr. Trujillo, there is a more important reason for purchasing ES&S software and firmware support. If some jurisdiction outside New Mexico pays ES&S to develop a firmware upgrade, or if ES&S develops one on their own initiative, ES&S will provide the upgrade free to covered counties.

However, regardless of coverage, ES&S includes the upgrade in all future sales of its equipment. So, if a county needs to purchase new equipment, it will contain the firmware upgrade. If the county hasn't upgraded all its other equipment, the new model may not be compatible with the older models. When asked if a county could purchase a model with the older, compatible firmware, Mr. Trujillo said they could not. ES&S sells only its latest version. If the upgrade is not compatible with the earlier version, an uncovered county would have to either purchase the upgrade for all its existing equipment or turn to another vendor.

- 2) **\$800,000 for hardware maintenance and support**, which includes labor and parts for repairing broken equipment.

Mr. Trujillo said that only two counties, Lee and Sandoval, had purchased the hardware support agreement, and he has been negotiating with ES&S to allow local technicians to be trained to service the county's equipment. Since only five AES technicians are certified by ES&S to repair equipment in New Mexico (352 miles wide by 391 miles long<sup>119</sup>), even if all the counties purchased the agreement, it would be logistically impossible for the five technicians to provide support to all the counties on election day.

Prior to the state's decision to use only ES&S equipment, local technicians were trained and available in every county. Mr. Trujillo said that arrangement worked well and that New Mexico law says vendors *shall* train local technicians to provide election day support. He said that ES&S was now reconsidering their previous refusal to do so.

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<sup>119</sup> <http://www.city-data.com/states/New-Mexico-Location-size-and-extent.html>

Curry County has other reasons for not purchasing hardware maintenance and support from ES&S. Ms. Lyman said that after receiving nothing for the original warranty, it made no sense to her county to spend approximately \$30,000 to receive nothing for another year. She added that her county board never buys maintenance contracts for anything, even the copier. If something breaks, they get it repaired or buy a new one, and in the long term the county has saved a lot of money that way. So that's their plan for the ES&S optical scanners and ballot-marking devices.

However, ES&S policy of selling only its latest version of equipment could present Curry County with a dilemma if Curry County needs new equipment and ES&S is selling only an upgraded model:

- ◆ New Mexico Statutes<sup>120</sup> require that every county provide one voting system in each precinct. So, if one machine breaks and the county has no spare, Curry County would be legally bound to purchase a replacement.
- ◆ The statutes also require that voting systems be approved by the Secretary of State. So, if the New Mexico Secretary of State declines to certify the new model, Curry County would not be legally allowed to purchase either the upgraded equipment or the upgrade for its older models.
- ◆ The statutes also require that voting systems meet federal voting system standards. But the federal standards do not permit the use of different types of equipment that have not been tested and approved as an integrated system. So, unless ES&S chooses to have a system that includes both its older and its latest model tested to federal standards, Curry County could not purchase and use the newer model without upgrading all its equipment – even if the new model appeared to be compatible with the old one.
- ◆ Furthermore, Curry County could not turn to another vendor unless it replaced all its equipment.

But, while it appears that ES&S' has Curry County (and other New Mexico counties) over a barrel, Ms. Lyman is confident in her county's resourcefulness. She ended the interview with the author by explaining the source of that confidence:

The only thing that gets us through these elections and the frustration of dealing with ES&S is the confidence that comes from knowing we have the paper ballots. No matter what happens – whether the equipment works or not, whether we have software problems or not – we have the paper ballots so we can always get the election results. If necessary, we can always hand count them.

Ms. Lyman's words demonstrate that the ability of the New Mexico counties to hold successful elections still rests in their own hands – if they accept the challenge.

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<sup>120</sup> 1-9-5. A. "Requirement to purchase and use voting systems." and 1-9-2. A "Secretary of state; manner of approval." <http://www.conwaygreene.com/nmsu/lpext.dll?f=templates&fn=main-h.htm&2.0>

## *Case Study of Oregon*

*For this state, necessity gave birth to invention.*

Oregon has developed its own, non-proprietary, citizen-owned method of providing accessibility for the state's voters with disabilities.<sup>121</sup>

Gene Newton, Oregon's HAVA Program Officer, has managed the development of an innovative means of providing voting accessibility to people with disabilities who are unable, for whatever reason, to mark a printed ballot. The method is called the Alternate Format Ballot (AFB) and it's used on standard computer stations along with standard assistive technology widely available for people with disabilities.

Mr. Newton first proposed this solution in 2004 after a few brainstorming sessions with his wife, Angel Hale, who is blind. The state did a pilot project in 2005 and the whole concept became the solution of choice in 2006.

"Nothing is proprietary," Mr. Newton said.

The state commissioned a consultant, accountable only to the state, to develop a Conversion Application that accepts as input the election definitions that counties already create for each election. The Conversion Application converts the election definition data to standard html files, thus creating an Alternate Format Ballot for every ballot style. An AFB can be opened in most web browsers, but the Internet itself is not in the picture - just the web browser used to read html files.

The AFB itself only requires that a person have access to a computer, a web browser, and a printer. AFB is designed to work on any platform, such as a Mac or a PC. The computer station is basically a ballot-marking device.

**Voters with disabilities can vote at home.** Voters who use assistive technology to access information on their home computers can use that technology to access the AFB at home. Such a voter is sent the html file for the correct ballot style, based on information in the voter registration database. The file can be sent to the voter via e mail or on CD or disc. The voter opens the ballot using a web browser and displays it on the computer screen.

Describing the AFB to the author, Mr. Newton said:

In response to the Help America Vote Act, the state needed a voting solution to allow people with disabilities to vote privately and independently in the same manner as other voters. Since Oregon is an all vote by mail state, this meant getting an accessible ballot to voters to allow them to vote at home. The Alternate Format Ballot became that solution.

**Or, voters can use one of their county's accessible stations.** Voters who do not have access to the needed technology can use one of the county's accessible computer stations. Each county has, at minimum, one permanent desktop station and one portable station that can be taken to independent living centers, hospitals, or even a person's home. The counties' accessible computer stations use off-the-shelf software and are not networked or connected to the Internet.

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<sup>121</sup> This section is based wholly on the author's interview with Mr. Newton. Additional information can be found here: <http://www.sos.state.or.us/elections/HAVA/accessibility.shtml>



The state created a custom Overlay that is used with a special keypad, Intellikeys, as a voter interface. The stations also provide screen magnification, a screen reader, and assistive input devices – such as a switch interface, dual switches, trackball, and joystick – that help make the ballot accessible across a wide range of disabilities. The voter can also use a standard keyboard to vote the AFB.

**Reviewing the ballot is also fully accessible.** After making selections, the voter can review the ballot on a separate review screen to check for errors prior to printing it. The AFB even allows a blind voter to verify the paper ballot. The printed ballot can be scanned into the computer, and using Optical Character Recognition software, the voter can have the ballot read back using a screen reader.

Once completed and printed the ballot is cast using the secrecy envelope and signature verification envelope that each voter receives in the mail along with the printed ballot. County officials duplicate the AFB onto an optical scan ballot for tabulating, and the original ballot is maintained as the official record of the vote.

The AFB has received excellent reviews from voters, many who expressed joy over being able to vote privately and independently for the first time in their life.

Asked about the cost, Mr. Newton said the major cost was for the 96 computer stations for the county. Other costs included approximately \$65,000 for developing the Conversion Application.

“The overall costs for the stations and the development of the conversion application was less than half a million dollars” said Mr. Newton.

And that’s it. No license fees, maintenance fees, support fees for counties to pay to voting system vendors. No dependence on vendors to provide accessibility for voters with disabilities.

State-owned and operated, inexpensive and effective, Oregon’s system may inspire other states to follow suit.

# Recommendations for Reversing the Direction in 2008 and Beyond

*By re-asserting ownership of elections, local officials and private citizens begin to rebuild the underpinnings of our election structure, even in time for the 2008 general election.*

## *How Local Election Officials Can Take Back Their Power*

Burdened by the demands of laws and the complexity of voting systems, local election officials nationwide have become increasingly dependent on their vendors for many phases of election administration. But local election officials in most states have the legal authority to take back much of the control of their own elections and share that responsibility with their constituents.

In the long term, taking these actions — or even a selection of them — is likely to be less costly, both in money and in consequences, than relying on the services provided by the vendors.

### **Recommendations for 2008 and beyond:**

*Knowledge is power*<sup>122</sup>

- ◆ Demand complete and accurate documentation for all the products purchased.
- ◆ Train the elections staff thoroughly on the equipment so the staff fully understands the operation of the hardware and software, can manage all the preventative maintenance, and can troubleshoot effectively.
- ◆ Improve training for each subsequent election by providing a form for election workers to log problems, so you can identify recurring problems and develop solutions.

*Control pre-election testing*

- ◆ Train the elections staff, or hire an experienced IT person accountable to the jurisdiction, to design the ballots and generate the ballot definition files for each election.
- ◆ Design and create the test decks of ballots for pre-election testing rather than having the vendor create them. Ideally, follow the guidelines published specifically for that purpose by John Washburn, a professional test engineer.<sup>123</sup> Remember that the goal of testing is to find problems, so include complex test cases. Try to break the system by testing ballots outside the normal expectations.
- ◆ Encourage the public to add ballots of their own design to the test decks.
- ◆ Conduct pre-election tests on every machine and encourage public input to, and scrutiny of, the process in order to catch and correct as many problems as possible before election day. The more eyes and minds, the better, so encourage public participation to the extent allowed by law. Investigate every discrepancy and keep the public informed.
- ◆ If complete testing on every machine is not possible, at least test that every machine boots up and counts votes correctly according to a less rigorous test that includes pressing every ballot position and button on every screen to ensure that it works correctly.

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<sup>122</sup> See also: **You Go to Elections with the Voting System You Have: Stop-Gap Mitigations for Deployed Voting Systems.** 2008. J. Alex Halderman, Hovav Shacham, Eric Rescorla, and David Wagner.  
<http://www.cs.berkeley.edu/~daw/papers/stopgap-evt08.pdf>

<sup>123</sup> **Guidelines for Creating a Deck of Test Ballots.** By John Washburn, Certified Software Quality Engineer. Sept. 8, 2006. <http://www.washburnresearch.org/archive/TestingGuidelines/GuidelinesForCreatingTestBallots.pdf>

### *Control ballot printing and absentee ballots*

- ◆ If possible, contract with a vendor-independent printer to print ballots, and monitor the number of ballots printed and delivered. Better yet, if possible, print the ballots in-house.
- ◆ Use workers in the jurisdiction to prepare absentee ballot envelopes for mailing, rather than using a vendor you cannot oversee. Better yet, if possible, prepare them in-house.
- ◆ If the office uses automated signature comparison software for returned absentee ballot envelopes, set the software to the **most sensitive** level so that the staff's eyes can check all potential discrepancies.

### *Oversee election day administration*

- ◆ Train poll workers thoroughly on equipment operation and troubleshooting procedures in order to reduce the need for vendor technicians at the polling places. If necessary, hire a training specialist to assist.
- ◆ Establish a well-staffed, private hotline for poll workers directly into the elections office, not a direct line to the vendor technicians. Provide a form to log each call to the hotline to help you identify recurring problems, so you can develop solutions for future elections.
- ◆ Provide emergency paper ballots (regular, not provisional) in all precincts where e-voting machines are used.
- ◆ Remove any malfunctioning machine from service for the rest of the day. Educate poll workers on how to manage malfunctioning machines.
- ◆ Train the elections staff thoroughly on the operation of the system, so they can retrieve results and run every kind of report, including audit logs and troubleshooting reports, without intervention from the vendor. If necessary, hire an experienced, independent IT person accountable to the election office. Oversee that technician as carefully as you oversee vendor technicians (see below).

### *Oversee the performance of the vendor's products*

- ◆ Make it easy for citizens to double-check their registration status before the election by advertising Internet pages, phone numbers, and other methods they can use. Encourage them to report errors to the election office and the Secretary of State.
- ◆ Insist that poll workers print and post all precinct results at the precinct. Compare the results printed at each precinct with the results reported for that precinct by the central tabulating system. Investigate every discrepancy and enter a written note into the record to explain each one.
- ◆ If the jurisdiction uses digital scanning technology, turn the "autoresolve" feature **off**, so the staff's eyes can resolve all damaged ballot images.
- ◆ Compare the number of voters signed in at each precinct to the number of ballots cast. Investigate every discrepancy and enter a written note into the record to explain each one.
- ◆ Immediately after each election, conduct public hand counts of as many ballots as the law allows. Compare the results with results reported by the software. Investigate every discrepancy and enter a written note into the record to explain each one.
- ◆ Establish and use an effective method of analyzing results for anomalies. If necessary, hire a demographer and/or statistician to help set up the method and train the staff on using it.

- ◆ Print and study the audit logs from the central tabulator to detect anomalies, track problems, and prevent future problems.
- ◆ Print the audit log for each machine that fails to perform as expected (can't generate a zero tape, won't open, won't close, jams, etc.). Study the audit logs to help you detect anomalies, track problems, and prevent future problems. These logs also provide documentation to support the problem diagnosis and explain and prove it to others if need be.
- ◆ Develop comprehensive, detailed checklists for problem reports. Ensure that all staff and poll workers use them.
- ◆ Log and investigate all equipment and software problems that occur in the field, during transmission of vote data, or in the central office. Attempt to replicate the problem on the same machine when possible. If vendors offer explanations, remember that their company loyalties may make them reluctant to admit to flaws in their products.
- ◆ Send formal reports of confirmed problems to the Election Assistance Commission.

*Oversee vendor employees who perform services*

- ◆ Insist that at least one staff member be present at all times when a vendor technician is working on hardware or software. Insist that the technician explain all actions and procedures to the staff as they are being done. Make sure the staff runs and examines the event log report before the technician leaves.
- ◆ Insist on credentials and references for all vendor technicians who provide support or service to the jurisdiction, including the extent of training, the length of time working for the vendor, and credible references pertaining to the work the technician is doing. Check references. If the technician appears to be less competent or ethical than expected, demand someone else.
- ◆ If a vendor services a machine, track the technician's name and ID with the machine serial number. Require the technician to print the event log audit report for that machine, so you can inspect and track additional information about the functioning of the machine, what time relevant events occurred, and explain to others if need be.
- ◆ Insist that at least one staff member accompany any equipment (including memory cards) sent to a vendor's location for analysis and remain with the machine as long as it is there.
- ◆ Educate staff and poll workers to recognize authentic badges, uniforms, or other credentials of vendors, what to do if they question a vendor's ID, and what vendors are and are not allowed to do.

**Recommendations for gaining even more oversight capabilities in the future:**

- ◆ Renegotiate contracts, if possible, and vigorously enforce them. Pursue legal action against vendors who violate laws or ethics.
- ◆ Lobby legislators and/or state election officials. Convince them to:
  - Require a new election when equipment flaws cause suspect outcomes.
  - Allow increased citizen observation of election administration activities.
  - Mandate significant hand counted spot-checks of the software's performance.
  - Add a "no choice" option for each contest on the ballot, especially electronic ballots, to eliminate questions about excessive undervotes.
- ◆ **Lobby to ban the use of equipment whose operation and accuracy the elections office and the public cannot oversee.**

## *How We, the People Can Participate in Election Oversight*

In a democracy, silence implies consent. As is true of local election officials, there are actions that ordinary citizens could take to increase our oversight of our own elections and thus reduce, or at least mitigate, the vendor undermining of elections. What you learn from taking one or more of these actions is likely to guide you as you decide what additional actions to take.

### **Recommendations for 2008, and then beyond:**

#### *Essential first steps*

- ◆ Accept responsibility for the health of democracy. Elections are your opportunity to have a voice in your government. Refuse to sit quietly while vendors undermine your voice.
- ◆ Inform your friends and family about vendor undermining and its dangers.
- ◆ Establish a relationship with your local election administrator, based on your mutual interest in accurate elections. Learn about the administration of elections in your jurisdiction and the extent to which vendors have undermined elections in your jurisdiction.
- ◆ Print this document and give it to your local election administrator.

#### *Exercise oversight to the extent allowed by law*

- ◆ **Oversee through observation.** Observe as many parts of the election process as you can, for example: ballot programming, ballot printing, preparation for pre-election testing, pre-election testing itself, election day at the precinct, closing the polls at your precinct, the totals printed at your precinct, the process of opening absentee ballots, the election night tally at the central office, the opening of the provisional ballots, the canvassing of the ballots. For more information, ideas, and guidance, see *Black Box Voting's Toolkit 2008*.<sup>124</sup>
- ◆ **Serve as a paid poll worker.** Serving in your precinct on election day allows you not only to observe, but also to ensure that the proper procedures are followed and that vendors do not have unauthorized access to equipment that may malfunction. Most jurisdictions are in need of poll workers and will welcome your offer. Contact your local election office or contact Pollworkers for Democracy<sup>125</sup> for more information.
- ◆ **Learn how to observe and what to watch for.**

### **Recommendations for gaining even more oversight capabilities in the future:**

- ◆ Lobby legislators and/or state election officials. Convince them, hopefully in coordination with your local election official, to:
  - Require a new election when equipment flaws cause suspect outcomes.
  - Allow increased citizen observation of election administration activities.
  - Mandate significant hand counted spot-checks of the software's performance.
  - Add a "no choice" option for each contest on the ballot, especially electronic ballots, to eliminate questions about excessive undervotes.
- ◆ **Lobby to ban the use of equipment whose operation and accuracy the elections office and the public cannot oversee.**

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<sup>124</sup> **Top Five Things You Can Do To Protect Election 2008.** Black Box Voting.

<http://www.blackboxvoting.org/toolkit2008.pdf>

<sup>125</sup> <http://act.credoaction.com/pollworkers/faq.html>

## Conclusion

While our elections are still in jeopardy from the age-old threats of voter registration errors, polling place problems, vote coercion, vote-buying, and the corruption of election officials and partisans, in 2008 we are also confronted with a more recent, high-tech danger. The very structure of our elections is threatened by the country's pervasive dependence on the goods and services of a handful of voting system vendors.

The depth of the current dependence is shocking, but even more shocking is the fact that our elections are dependent on vendors whose records reveal their unethical and even unlawful behavior, as well as their incompetence.

But it is within our power to reclaim control of our own elections. The first step is to understand the danger of depending on vendors to administer elections, and then exercise the power we have to provide a solid, citizen-controlled foundation for our election structure.

Even in time for the November 2008 election, election officials and private citizens can take action (see page 48) to oversee the vendors and limit their control. In 2008 and beyond, citizens can and must re-assert their ownership of elections and demand transparent citizen oversight of the elections they rightfully own.