

## **What New York Election Commissioners have to look forward to if Computerized Voting Systems are Permitted to Replace our Existing Lever Voting System**

Excerpted below are just some of the ways in which New York's County Boards of Election could be prevented from fulfilling their duties through no fault of their own, were NY to abandon our lever voting machines. These are the actual experiences of honest men and women across the nation, thwarted in their ability to do their job due to their dependence on irresponsible voting system vendors with their overly complex and shoddily made computerized voting equipment (be they DREs or Optical Scanners).

In New York, Sequoia is the company that will be servicing and maintaining the Dominion Optical Scanner, chosen as the Ballot Marking Device by the majority of NY counties. About a third of the voters in the State will be using systems provided by ES&S. The problems with software-driven DREs or Optical Scanners are similar regardless of the vendor. All of the voting vendors' performance records have been equally problematic.

The following examples of election officials' experiences conducting elections on computerized voting machines are all documented in mainstream media reports and the citations included herein:

- Texas Director of Elections, Ann McGeehan, referring to ES&S's poor performance, described the preparations for the 2006 elections "completely unacceptable and disturbing .... **We regret the unacceptable position that many political subdivisions are in due to poor performance by their contracted vendor.**"<sup>1</sup>

- Illinois Commissioner of Elections in Cook County, citing tabulation problems by the Sequoia's optical scanners and DREs in the 2006 election said: "**The administration of this election was a train wreck.**" Sequoia officials insisted however that the system "performed very well, overall."<sup>2</sup>

- Texas election programmer William Singer wrote the Secretary of State's office after the 2004 vote to report that ES&S pressured officials to install unapproved software during the presidential primaries. "**What I was expected to do in order to 'pull off' an election ...was far beyond the kind of practices that I believe should be standard and accepted in the election industry.**"<sup>3</sup>

---

<sup>1</sup> Ann McGeehan, Letter to Texas Election Officials, *Status of Ballot and Programming Card Orders for the May 13, 2006 Elections*, April 24, 2006 available at <http://www.sos.state.tx.us/elections/laws/statusofballot.shtml>

<sup>2</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>3</sup> William Singer letter to Geoffrey S. Connor, Texas Secretary of State, July 29, 2004, available at [http://www.bradblog.com/Docs/WilliamSinger\\_TarrantSosComplaint\\_072904.doc](http://www.bradblog.com/Docs/WilliamSinger_TarrantSosComplaint_072904.doc)

- Elections supervisor Ion Sancho of Leon County Florida, concerned about the security of the Diebold optical scanners, arranged for Finnish computer programmer Harri Hursti to independently examine a Diebold optical scanner. Hursti **demonstrated how easy it was to subvert the memory card without detection**. Instead of correcting the gaping security hole, Diebold responded by pressuring the election supervisor to not reveal Diebold's flaws.<sup>4</sup>

- In 2007 a **Princeton University computer scientist hacked a Sequoia AVC computer (DRE) within a few seconds**. Rather than addressing the vulnerability, Sequoia pointed to its own misleading marketing material that claimed: "tamper proof products, including... the AVC Advantage, are sought after from coast to coast for their accuracy and reliability." However the scientist described:

[H]ow simple it was for me to access the ROM memory chips containing the firmware that controls the vote-counting. **Contrary to Sequoia's assertions in their promotional literature, there were no security seals** protecting the ROMs.<sup>5</sup>

- Another Princeton professor, Ed Felten, found that the same Sequoia machines had vote count discrepancies in the 2008 Primaries.<sup>6</sup> **The public counter failed to match the number of ballots cast, which was inconsistent with Sequoia's explanation for the discrepancies.**<sup>7</sup>

- After Union County, NJ clerk Joanne Rajoppi persuaded the Constitutional Officers Association of NJ to have an independent study of the machines done by Felten, **a Sequoia executive, Edwin Smith, put Rajoppi on notice that an independent analysis would violate the licensing agreement between his firm and her county. ... Smith also argued the voting machine software is a Sequoia trade secret and cannot be handed over to any third party.**<sup>8</sup>

- Finally, a Princeton report released just three weeks before the 2008 General Election, per a court order, stated:

---

<sup>4</sup> Harry Hursti, "Security Alert: July 4, 2005, Critical Security Issues with Diebold Optical Scan Design," Black Box Voting, available at <http://blackboxvoting.org/BBVreport.pdf>

<sup>5</sup> Andrew Appel, *How I bought used voting machines on the Internet*, February 8, 2007 available at <http://www.cs.princeton.edu/~appel/avc/>

<sup>6</sup> Ed Felten, Freedom to Tinker Blog, *Evidence of New Jersey Election Discrepancies*, <http://freedom-to-tinker.com/blog/felten/evidence-new-jersey-election-discrepancies>

<sup>7</sup> Ibid. *NJ Election Discrepancies Worse Than Previously Thought, Contradict Sequoia's Explanation*, <http://www.freedom-to-tinker.com/blog/felten/nj-election-discrepancies-worse-previously-thought-contradict-sequoias-explanation>

<sup>8</sup> Newark Star-Ledger, *Plan for voting machine probe dropped after lawsuit threat*, [http://www.nj.com/news/index.ssf/2008/03/voting\\_machine\\_maker\\_threatens.html](http://www.nj.com/news/index.ssf/2008/03/voting_machine_maker_threatens.html)

“[S]ometimes the AVC Advantage does not properly record the intent of the voter. .... The AVC Advantage's susceptibility to installation of a fraudulent vote-counting program is far more than an imperfection: **it is a fatal flaw.**”<sup>9</sup>

- Optical-scan machines made by Election Systems & Software failed pre-election tests in Oakland County, Michigan, producing different tallies for the same ballots every time. The top election official in the county, County Clerk Ruth Johnson, wrote a letter to the Election Assistance Commission requesting a federal directive to allow county clerks to conduct random audits (hand counts) of voted ballots to test machine accuracy. **Johnson stated that local clerks were prohibited from performing any maintenance or cleaning as it would void the warranty, and that conflicting vote totals had surfaced in other areas of the state.**<sup>10</sup>

- California's Secretary of State's 2007 Top to Bottom Review of the voting computers in the state revealed **that Sequoia's voting system could be subverted without "leaving any evidence that the security of the system had been compromised.... Sequoia's security hardening consisted in large part of a customer relations campaign to allay fears that tampering would be a problem."**<sup>11</sup>

- Arkansas' White County Clerk described the problems in a runoff election in 2006 as “a royal mess.” County Election Commissioner Nunnally wrote to the Secretary of State complaining that, **“ES&S has now proven in four states that they are unable to meet deadlines for the delivery of programming, regardless of the time period they have to work. .... ES&S is set up to box us into [sic] using their proprietary services for election preparation. They are doing this in every state they sell. They don't have the resources to meet the needs for these services and that is a verifiable fact at this point.”**<sup>12</sup>

- The state of **California sued Diebold for misrepresentations** made to the Secretary of State **regarding the installation of uncertified software** on their machines. A False Claims Act lawsuit filed against Diebold was settled in 2006 by Diebold paying \$2.6 million.<sup>13</sup>

---

<sup>9</sup> Appel, et al, Princeton University Center for Information Technology Policy, *Insecurities and Inaccuracies of the Sequoia AVC Advantage 9.00H DRE Voting Machine* <http://citp.princeton.edu/voting/advantage/>

<sup>10</sup> Kim Zetter, Wired Threat Level Blog, *ES&S Voting Machines in Michigan Flunk Tests, Don't Tally Votes Consistently*, <http://blog.wired.com/27bstroke6/2008/11/michigan-electi.html>

<sup>11</sup> Scott Fulton, *Three e-voting systems susceptible to attack*, California Team Finds, BetaNews, July 30, 2007 [http://www.betanews.com/article/Three\\_EVoting\\_Systems\\_Susceptible\\_to\\_Attack\\_California\\_Team\\_Finds/1185822412](http://www.betanews.com/article/Three_EVoting_Systems_Susceptible_to_Attack_California_Team_Finds/1185822412)

<sup>12</sup> *Election 2006: 'a royal mess'*: White County Election Commissioner claims state advised to break the law. The Daily Citizen. June 5, 2006. [http://www.thedailycitizen.com/articles/2006/06/06/news/top\\_stories/top01.txt](http://www.thedailycitizen.com/articles/2006/06/06/news/top_stories/top01.txt)

<sup>13</sup> California Attorney General *Press Release, Attorney General Lockyer announces \$2.6 million settlement with Diebold in electronic voting lawsuit*, November 10, 2004, <http://ag.ca.gov/newsalerts/release.php?id=843>

- The **Indiana Election Commission discovered** in March, 2004, that **ES&S had installed uncertified firmware in some of their voting machines**. When forced to reinstall the certified version, it didn't tabulate the votes correctly. **An exasperated member of the election commission said, "I just think I was absolutely lied to by your CEO ... I sat in this room and you all lied to me. You're so derelict in your duties...."**<sup>14</sup>

- In 2005 **Indiana sued ES&S** after it once again installed uncertified software in the voting system of another Indiana county. **Indiana claimed ES&S lied about swapping out the uncertified software**. The lawsuit was settled by ES&S paying \$1.2 million.<sup>15</sup>

- In 2006 **Indiana filed a formal complaint against ES&S for failing to provide working equipment and ballots in several counties in time for an election, and providing defective voting equipment, software and services.**<sup>16</sup>

- **Oregon's Secretary of State sued ES&S in 2006 for breach of contract for failure to deliver voting machines**. ES&S had agreed to all of the standard state contract terms, but subsequently informed the SoS that it would not agree to the terms of the contract, and would not deliver the voting machines unless the Secretary changed the terms of the contract. The SoS refused to alter the contract to meet ES&S's demands, which led to the lawsuit. **"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."**<sup>17</sup>

- **San Francisco's city attorney sued ES&S for "a panoply of wrongdoing that includes fraud, breach of contract, negligent misrepresentation and multiple violations of California's False Claims Act and Unfair Competition Law."** **Blaming the vendor for its failure to meet the terms of its contract with the city**, SF's attorney said:

San Francisco's experience with ES&S raises extremely troubling questions, not simply about the integrity of this company's technology, but about the integrity of this company itself. ....**There can be no more important duty in a representative democracy than to conduct elections, and it is a travesty to see that duty so flagrantly undermined by the fraudulent conduct of an election systems vendor.**<sup>18</sup>

---

<sup>14</sup> Brian Burdick March 15, 2004 quote on WishTV web page now removed, referring to meeting in which ES&S management lied; see *Indiana Election Commission Minutes, March 10, 2004*, Item F, pp 33-38, available at [http://www.in.gov/sos/elections/pdfs/IEC\\_Minutes\\_March\\_10\\_2004.pdf](http://www.in.gov/sos/elections/pdfs/IEC_Minutes_March_10_2004.pdf)

<sup>15</sup> Jason Thomas, *Voting machine company to pay county \$1.2 million*, The Indianapolis Star (via Knight-Ridder/Tribune Business News) August 15, 2005, [http://www.accessmylibrary.com/coms2/summary\\_0286-9538963\\_ITM](http://www.accessmylibrary.com/coms2/summary_0286-9538963_ITM)

<sup>16</sup> Indiana Secretary of State Press Release, *Rokita serves notice of violations to voting machine vendor*, April 28, 2006, <http://www.in.gov/sos/press/2006/04282006.html>

<sup>17</sup> Oregon Secretary of State *Press Release: Bradbury sues voting vendor* (ES&S), April 20, 2006, <http://www.sos.state.or.us/executive/pressreleases/2006/0420.html>

<sup>18</sup> *Fog City Journal's coverage*, [http://www.fogcityjournal.com/news\\_in\\_brief/pr\\_herrera\\_ess\\_071120.shtml](http://www.fogcityjournal.com/news_in_brief/pr_herrera_ess_071120.shtml),

The litigation was subsequently settled for \$3.5 million dollars.

- Iowa's Pottawattamie County Auditor Mary Jo Drake found a county-wide ballot programming problem in its ES&S optical scanners that went completely undetected until after the 2006 primary election when **hand counts revealed that votes had been switched** between candidates: the Republican candidate would have lost the election according to the machines.

**The faulty programming affected every race on the ballot, and the county ordered a full hand recount of all races.** .... [otherwise] the wrong candidates would have taken office. ... The gross errors, like Pottawattamie's, are the ones that are caught. But if an error affected only a race for the U.S. Congress, governor or the state senate -- and that race was closely fought -- no one would know.<sup>19</sup>

- Pennsylvania's Cumberland County undertook a **9.5 hour hand recount after a problem involving an ES&S software coding error** in a 2005 election. The hand count changed the winner of the election.<sup>20</sup>

- In Arkansas, Clark County, 2006 **ES&S failed to print ballots on time requiring local officials to print the ballots on an office printer and count them by hand.**<sup>21</sup>

- Washington, Grays Harbor, 2004 **ES&S scanners were downloading some disks twice, requiring the county to recount the ballots, changing the outcome of the election.** County Auditor Spatz was surprised when told that ES&S scanners had double-counted ballots in other states.<sup>22</sup>

- Upshur County, West Virginia, filed a complaint with its Secretary of State over machine failures in the May 2008 election. During the hand recanvassing of the May election, the

---

<http://www.sfgate.com/cgi-bin/object/article?f=/c/a/2008/01/23/BA4AUJQ2D.DTL&o=0&type=printable>

<sup>19</sup> Sean Flaherty, *In An Age Of Computerized Voting, Is It Possible To Maintain Voting Integrity?* July 03, 2006, originally in The Iowa City Press-Citizen, [http://www.votetrustusa.org/index.php?option=com\\_content&task=view&id=1460&Itemid=113](http://www.votetrustusa.org/index.php?option=com_content&task=view&id=1460&Itemid=113), Knauss, Leaders, Williams win in GOP supervisors primary. The Daily Nonpareil. June 8, 2006. [http://www.zwire.com/site/news.cfm?newsid=16757670&BRD=2703&PAG=461&dept\\_id=555106&rfi=6](http://www.zwire.com/site/news.cfm?newsid=16757670&BRD=2703&PAG=461&dept_id=555106&rfi=6)

<sup>20</sup> *DJ race still up in the air.* Sentinel, November 11, 2005. <http://www.cumberlink.com/articles/2005/11/11/news/news02.txt>  
Archive: <http://www.votersunite.org/article.asp?id=6323>

<sup>21</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>22</sup> *Gray's Harbor County re-count boosts Gregoire.* November 16, 2004. By Rebecca Cook, Associated Press. <http://www.kgw.com/sharedcontent/APStories/stories/D86D7FA80.html>

Commission "**tossed out all Election Day optical scan ballot results and recounted them,**" when it discovered that the machines double counted the early voting ballots.<sup>23</sup>

- White County, Arkansas experienced **machine failures which forced election officials to fully hand count the ballots, changing ALL machine-reported results,** and overturned the victory in one race. "**No voting machines functioned properly in any of the 32 White County voting sites on Tuesday.**"<sup>24</sup>

- Wayne County, West Virginia was **forced to count paper receipts from DREs that erroneously recorded voter choices** in the recent 2008 election. "Though only a small number of paper receipts have been checked thus far, the **errors appear to be widespread and affect several races....** The commission will not certify the election results until the Secretary of State's office investigates the matter."<sup>25</sup>

- In the nation's capital, the D.C. Board of Elections and Sequoia were both blamed for a 2008 primary election blunder that caused **thousands of phantom votes to appear** in initial results. Although a report from a D.C. Council committee **dismissed Sequoia's theories** that human error or static discharge, and not defective software or hardware, was at fault when a cartridge from Precinct 141 added thousands of votes, **it committed the special committee to examine the effectiveness of the elections board and its top staff.**<sup>26</sup>

- Miscounts by Sequoia Voting Systems op-scans were also implicated in a disputed 2008 judicial election in Palm Beach County Florida. Re-scans of 262 rejected ballots revealed differing results every time they were scanned. **Attorney Gerald Richman said the findings showed the machines can't be trusted. "We have to get a new election or a hand recount," he said.**<sup>27</sup>

- Finally I refer you to a 2007 Electoral Commission Report<sup>28</sup> produced in response to the problems with the **Dominion optical scanner** used in Britain last year for the first time. Dominion is new to the field, but as the report reveals, the myriad of breakdowns and computer problems experienced by election officials in Britain are not at all new. As the annexed

---

<sup>23</sup> Amanda Hayes, County finds major election blunder, May 21, 2008. The Record Delta (Buckhannon, WV) available at [http://www.therecorddelta.com/V2\\_news\\_articles.php?heading=0&page=&story\\_id=1490](http://www.therecorddelta.com/V2_news_articles.php?heading=0&page=&story_id=1490)

<sup>24</sup> Warren Watkins, *Winner rejoices, then deflated*, May 21, 2008. Daily Citizen (Searcy, Arkansas), [http://www.thedailycitizen.com/articles/2008/05/22/news/local\\_news/news01.txt](http://www.thedailycitizen.com/articles/2008/05/22/news/local_news/news01.txt)

<sup>25</sup> Bryan Chambers, *Complaint filed on Wayne voting machines*, May 22, 2008. The Herald-Dispatch (Huntington, WV), <http://www.herald-dispatch.com/news/x1266665102>

<sup>26</sup> Nikita Stewart, Washington Post, *Firm, Elections Board Faulted in Voting Mishap* <http://www.washingtonpost.com/wp-dyn/content/article/2008/10/08/AR2008100803542.html>

<sup>27</sup> Mark Hollis, Miami Sun Sentinel, *Lawyer says Palm Beach County voting machines need repair*, [http://weblogs.sun-sentinel.com/news/politics/palm/blog/2008/10/\\_attorney\\_gerald\\_richman\\_said.html](http://weblogs.sun-sentinel.com/news/politics/palm/blog/2008/10/_attorney_gerald_richman_said.html)

<sup>28</sup> The Electoral Commission, UK, *Stratford and Warwick Pilot Report, Aug, 2007*, [http://www.electoralcommission.org.uk/\\_data/assets/electoral\\_commission\\_pdf\\_file/0012/13215/Stratfordstatutoryevaluationreport\\_27188-20108\\_ENSW.pdf](http://www.electoralcommission.org.uk/_data/assets/electoral_commission_pdf_file/0012/13215/Stratfordstatutoryevaluationreport_27188-20108_ENSW.pdf)

newspaper account describes, the elections “ended in chaos as the electronic votes were chucked out following a catalogue of errors and the whole thing was recounted by hand, delaying results by several days.”<sup>29</sup> The article went on to state that, “The list of things that went wrong is far too extensive to repeat here, but if you want an example of how not to manage an IT project, look no further than the link at the end of this story.” The link is to the Electoral Commission Report prepared for this pilot project in which certain jurisdictions had experimented with the use of these optical scanners. The Report found:

The pilot scheme did not facilitate the counting of votes. ... [In some jurisdictions] no contests were counted electronically. The scanning of ballot papers took a lot longer than expected due to the need to scan certain batches more than once. ... [S]ignificant delays in the count process [led] to a reversion to a manual count. ... The use of electronic counting significantly increased the total cost of delivering these elections compared with a manual count.

The Dominion Optical Scanners are of course the ones selected as ballot marking devices by most of New York’s counties. As BMDs they only have to mark ballots which in the 2008 election, were hand counted. It is as **counting devices** however, that the history of optical scanner use, Sequoia’s deficient performance record and the experience of British election commissioners’ should cause a rational State Board of Election to refrain from thrusting these problematic voting machines onto the counties.

In addition to the above examples, there are thousands of additional reports of failed DREs and optical scanners. There is no dispute in the scientific community or in New York that voting software even were it to work well, can only be verified by a partial hand count of the paper produced by the DRE or counted by the optical scanner. **The closer the margin of victory reported by the voting system, the larger the hand count would have to be confirm that the outcome was correct.**<sup>30</sup> And should the manual count reveal inconsistencies, this could necessitate a full hand count. For an election that spans multiple counties, this means the hand count would have to be expanded, **even in counties where no errors were found initially.**<sup>31</sup>

Thus the new computerized system planned for New York will produce unknowable results which will then be checked after election night by counting paper. New York has a lever voting system that does not rely on paper ballots to prove the accuracy of its elections and that gets the job done on election night. How can we surrender a functioning time-tested, reliable voting system to one so inferior, unreliable and far costlier?

---

<sup>29</sup> <http://www.theinquirer.net/en/inquirer/news/2007/08/03/e-voting-comedy-of-errors-in-shakespeares-stratford>

<sup>30</sup> McCarthy, Stanislevic, Lindeman, Ash, Addona and Batcher, The American Statistician, *Percentage-Based versus Statistical-Power-Based Vote Tabulation Audits*, [http://verifiedvoting.org/downloads/TAS\\_paper.pdf](http://verifiedvoting.org/downloads/TAS_paper.pdf)

<sup>31</sup> Philip Stark, The Annals of Applied Statistics, *Conservative Statistical Post-Election Audits*, <http://statistics.berkeley.edu/~stark/Preprints/conservativeElectionAudits07.pdf>