



Refuting Sequoia Claims about Optical Scan Voting

In an attempt to counter the many advocates of paper ballots and precinct based optical scan voting systems, Sequoia Voting Systems is distributing a document titled “*Correcting Fallacies about Voting Technology Options for New York*” to legislators, news organizations, and election officials around New York State.

However, Sequoia’s statements in support of DREs are misleading, half-truths or just plain false. In this paper, we rebut the many flawed arguments found in the Sequoia document.

ACCESSIBILITY OF OPTICAL SCAN TECHNOLOGY

Sequoia states: “*To date, only DRE equipment has been certified to provide accessible voting required by federal mandates. While optical scan ballots meet some provisions of the Help America Vote Act (HAVA), there is no federally approved equipment that would allow an optical scan ballot system to meet the accessibility requirements mandated by Section 301 of the Act.*”

FALSE

The Automark, a ballot marking device which assists voters in marking optical scan ballots and is marketed by a Sequoia competitor, has successfully passed federal qualification tests and is awaiting assignment of its federal qualification number. It is fully able to meet HAVA accessibility requirements¹.

Sequoia states: “*The only option currently available would be the addition of one accessible DRE in each polling place, effectively doubling the hardware cost.*”

FALSE

This assertion is made repeatedly by proponents of DREs and is simply untrue. Fully accessible ballot marking devices like the Automark provide full HAVA compliance, as noted above. Indeed, many states, such as Arizona, South Dakota, and others, are adopting optical scan and ballot marking devices in order to allow disabled voters the ability to vote independently.

Sequoia states: “*A prototype for a costly machine that would assist disabled voters in marking a paper ballot has been categorically rejected by the America Association of Persons with Disabilities as an unacceptable violation of the HAVA accessibility mandates.*”

A CONFLICT OF INTEREST

The vice-president of the AAPD, Jim Dickson, is an advocate of DREs and his organization has accepted money from DRE vendors to further their agenda. According to the NY Times, the AAPD received \$26,000 from DRE vendors this year². Statements made by this organization and Mr. Dickson must be taken with a grain of salt.

The Automark ballot marking device is well regarded by many in the disabled community³, and considered by many to be far more accessible than the Sequoia Advantage DRE.

1. http://www.automarkts.com/Documents/ATS_SysTest%20Compliance.pdf and
http://www.automarkts.com/Documents/ATS_SysTest%20Compliance.pdf

2. <http://www.votersunite.org/article.asp?id=3146>.

3. Testimonials for the Automark from disabled voters can be found at
http://www.automarkts.com/Documents/Automark_Quotes4142005.pdf and
http://www.automarkts.com/Documents/AutoMARK_Quotes462005.pdf

OPTICAL SCAN ELECTION DISTRICT LIMITATIONS?

Sequoia states: *"In an attempt to misstate the higher cost of optical scan voting solutions, some have argued that one ballot scanner could be used for multiple voting jurisdictions. In practice, each Election District must have its own optical scanner staffed by its own poll workers to avoid logistical chaos at the polls on Election Day."*

FALSE

It is important to understand that *a single optical scanner and ballot marking device can accommodate all but the largest polling places, including those with multiple lever machines. But all polling places with multiple lever machines will require multiple DREs.* For example, a polling place with 3 lever machines will have to purchase 3 DREs to replace each lever machine. But that same polling place would only need to purchase *one optical scanner and one ballot marking device* to replace three lever machines. That's one of the reasons the cost of deploying optical scanners is so much lower than deploying DREs.

Sequoia's statement is simply not supported by the facts. 46% of US counties currently use precinct based optical scanners, and the common practice is to use one optical scanner per polling place, even when—as is typical—there are multiple election districts.

COST COMPARISON: DRE vs. OPTICAL SCAN

Sequoia states: *"A DRE machine, used by all voters regardless of disability, would cost roughly \$7500 per ED while an optical scanner (\$5000) and a separate accessible machine (\$7500) would cost \$12,500 per electoral district."*

FALSE

Sequoia's claim that upfront hardware costs are less expensive with DREs is simply not supported by the facts. They falsely assert that one optical scanner and one ballot marking device are required for each election district. But, as noted above, this is not the case in the many states currently using optical scan. *Because a single optical scanner and ballot marker can replace multiple lever machines in the same polling place, far less equipment must be purchased.*

The \$7500 price quoted for the DRE does not correspond to earlier statements made by Sequoia about the cost of the Advantage DRE. New York State legislation requires that a voter verified paper ballot must be part of any machine adopted here. To date, *Sequoia has not demonstrated such a machine in New York.* The price for a fully HAVA compliant, accessible DRE with a voter verified paper ballot will certainly exceed \$7500. Indeed, Sequoia has quoted prices of \$11,500 to disabled advocates for such a machine.

Sequoia also overstates the cost of the ballot marking device by at least \$2,000. Automark ballot markers were purchased in Bowie County, Texas for \$5,500 apiece⁴.

The acquisition costs can be simply calculated, as follows⁵. For optical scan technology, each polling place has one optical scanner and one Automark ballot marking device for a total of \$10,500. For precincts with more than four lever machines, add one extra scanner plus ballot marker. The total optical scan acquisition cost for New York is then \$114 million. The acquisition costs for DREs are 20,000 lever machines times \$11,500 per DRE, for a total of \$230 million, an additional cost of \$116 million to purchase DREs.

4. http://www.texarkanagazette.com/articles/2005/04/26/local_news/news/news10.txt
By GREG BISCHOF, *Texarkana Gazette*, April 26, 2005

5. <http://www.nyvv.org/doc/AcquisitionCostDREvOptScanNYS.pdf>

Sequoia states: “DRE systems are considerably less expensive to operate. Optical scan systems require two different types of hardware for each election and require costly printed ballots. Both the upfront hardware costs and the long term recurring costs are less expensive with DRE equipment than they are with optical scan technology.”

FALSE

Sequoia’s analysis of operating costs is very sketchy. First, they inflate actual ballot printing costs by a factor of two (60 cents per ballot), NYVV has obtained a quote from a certified optical scan ballot printer of 29 cents per ballot⁶. Indeed, some states using optical scanners pay from 10 to 20 cents per ballot. New York, with its 11 million registered voters, should be able to negotiate very favorable ballot printing rates.

Sequoia says nothing about storage and transportation expenses for their large DRE machines (225 pounds), which will be substantial. But only a single, compact optical scanner and ballot marking device is required for each polling place, so optical scanner technology will incur far lower storage and moving costs.

Sequoia states: “The purchase and operation of a DRE system over a ten year period would be less than half the cost of an optical scan system when accessibility equipment and recurring ballot printing costs are factored into county budgets.”

FALSE

Our analysis shows that DREs will be much more expensive than optical scan technology. In addition, we can cite real world comparisons that show DREs are the more costly alternative.

Rosemary Mason of VotersUnite.org compared voting costs in Sarasota Co., FL with those in Manatee Co., FL⁷. Sarasota started using DREs in 2001, and Manatee has had optical scanners since 1997. (Manatee obtained ballots at 20 cents each.) Correcting for the smaller size of Manatee Co., **the annual costs for Sarasota’s DREs was 67% higher than Manatee’s optical scanners.**

Orange Co., FL uses optical scanners, and its per voter operating costs were 1/3 of costs of Miami-Dade Co., which uses DREs⁸. **Citing a series of mishaps, including errors and breakdowns, the Miami-Dade Election Supervisor, Lester Sola, has recommended replacing the DREs with precinct based optical scanners⁹.** He says that the county would spend between \$9 and \$12 million to change, but would save more than \$13 million over five years. (Miami-Dade, population 2.3 million, is America’s eighth largest county.)

Sequoia does not and cannot back up their claims of cheaper costs with any supporting data.

6. <http://nyvv.org/reports/PaperBallotPrintingCosts.pdf>

7. <http://verifiedvoting.org/downloads/myerson.pdf> and
<http://www.nyvv.org/doc/AcquisitionCostDREvOptScanNYS.pdf>

8. *Miami Herald*, 5/26/05, <http://www.miami.com/mld/miamiherald/11739198.htm>

9. *The Ledger*, FL, 5/29/05, <http://www.theledger.com/apps/pbcs.dll/article?AID=/20050528/APN/505280676>

PROTECTION AGAINST COUNTING ERRORS

Sequoia states: *“Electronic voting eliminates the problems of ambiguously marked ballots which led the nation to question the integrity of voting in Florida 2000.”*

FALSE

The questionable ballots in the Florida 2000 election were from punch card systems—everyone remembers the notorious “hanging chads”! It is disingenuous to claim that the Florida problems were a result of optical scan ballots; they were not.

Indeed, the precinct based optical scanner system produces ballots in which it is extremely easy to determine voter intent. This is because scanners allow voters to verify their ballots before they are cast. The scanners can be programmed to reject ballots with overvotes, undervotes, and stray marks that might cause difficulty in determining voter intent. The voter has the opportunity to correct and rescan such ballots, resulting in an extremely high rate of valid, legible ballots.

EASE OF USE FOR SENIORS

Sequoia states: *“Some groups have attempted to argue that senior citizens are intimidated by electronic voting systems. Nothing could be further from the truth; in reality, seniors have been among the biggest supporters for electronic voting because of the large, easy to read type and the speed and simplicity of completing the ballot.”*

FALSE

Ask any election commissioner in New York State what senior citizens in their communities, both voters and poll workers, say about voting on DREs. They do not want to vote on computers, plain and simple.

It is also strange that Sequoia uses the phrase “large easy to read type”. The Sequoia AVC Advantage, the model offered to New York State, has a ballot face using a small typeface that cannot be enlarged. Because the ballot face is printed, it cannot be resized to a larger font size. This inability of the Sequoia Advantage to enlarge the typeface is a source of dissatisfaction to visually impaired voters, who require large fonts and the ability to display text on different background colors.

Using the ballot marking device, optical scan ballot typefaces can be enlarged, and even displayed with different contrasts and colors, an essential feature to visually impaired voters.

DURABILITY AND LONGEVITY OF EQUIPMENT

Sequoia states: *“DRE and precinct-based optical scan equipment were both introduced to the market at roughly the same time. There are several instances of counties replacing optical scan technology with DRE equipment, but very few cases where DRE equipment has been removed and replaced with optical scanners.”*

MISLEADING

While some states are replacing existing equipment with DREs, almost all counties which use precinct based optical scanners are extremely happy with them, and continue to use them. Indeed, some states, including Arizona, Michigan, Minnesota, Rhode Island and West Virginia, are replacing all existing voting equipment with optical scanners in 2006 in order to comply with HAVA.

Some states and counties are indeed replacing their existing DREs with optical scanners. The alarming thing is that they are being replaced because the DREs are failing during elections:

As noted above, Miami-Dade County officials are studying whether to replace expensive DRE voting systems with optical scanners after a series of mishaps. According to an earlier article in the *Miami Herald*, "In Broward County, Mayor Kristin Jacobs said she regrets that the county also chose iVotronics over optical scan machines. "I understand that we've invested a lot of money in the electronic machines, but I would be more comfortable with optical scan because it gives you the ease of computerization and a paper trail," she said. "Hindsight is 20-20. In retrospect I probably would have gone with optical scan."¹⁰

In Pennsylvania, Secretary of the Commonwealth Pedro A. Cortes announced the decertification of the Unilect Patriot DRE voting system that serve Beaver, Greene and Mercer counties. The DREs were decertified because, during tests, "the system failed to sense screen touches multiple times and did not register nor record votes. The screen also "froze" and stopped accepting touches during the reexamination." These counties have presently gone back to using precinct based optical scanners¹¹.

Sequoia states: "Because of the flexibility of the software incorporated in the DRE equipment, the electronic voting systems have a much greater level of upgradeability and flexibility to ensure continued compliance with constantly evolving federal voting system requirements."

FALSE

Optical scanners and DREs are both programmable, although the scanners are much simpler. Any software can be modified or rewritten to provide new or upgraded functionality. There is nothing about DRE software that makes it more flexible or upgradeable than optical scan software.

WHAT SEQUOIA ISN'T SAYING ABOUT LONGEVITY

Sequoia never addresses the durability or longevity of either DREs or optical scanners. However, we know from experience in the many other states which have been using paper ballot and optical scanners that they have an extremely long lifetime.

Surveys of states using precinct based optical scanners show that they continue to operate flawlessly for years. Most states using them report the expected lifespan of their scanners to be 20 years!

No DRE can make that claim. Because DREs are a relatively new arrival, nobody can say for sure what their expected lifetime will be. Indeed, touchscreens are notoriously failure prone devices. The longest warranty period that can be found for a touch screen device of any type is five years. Compare that to the expected lifetime of 20 years for optical scanners.

10. *The Miami Herald*, April 12, 2005, <http://www.miami.com/mld/miamiherald/11370895.htm>

11. *Washington County Observer Reporter*, April 12, 2005, <http://www.observer-reporter.com/341972509344917.bsp> and *Pittsburgh Tribune-Review*, April 23, 2005, http://pittsburghlive.com/x/tribune-review/trib/regional/s_327234.html