

Montana's ES&S Voting Machines:

Secure and Accurate or
Insecure and Problematic?

**Older Downloadable Black & White or Color Presentation
online at: <http://www.EnduringVoteMontana.org>**

**For more information: Steve Corrick, Founder, Enduring
Vote Montana, Gardenearth@aol.com, 406-549-8777**

Contents and Slide Numbers:

1. Intro Slide
2. Contents and Slide Numbers
3. Former Voting Machine Vendor CEO Speaks Out
4. Recent ES&S Disasters
5. So far Montana's Done Well
6. Polson's Hottest Race
7. MT Recount & VVPAT Law
8. HB 177 -Clarifying Procedures for Counting Votes
9. Montana Recount Provisions
10. Help America Vote Act (HAVA)
11. Optical Scans Get Top Reco
12. ES&S 650 Central Ballot Counter
13. Montana Secretary of State Vigilant
14. Brennan Center Study Finds 120 Evote Flaws
15. Princeton: Hacks Diebold in 1 Min! .
16. 10/27/06 Uconn's Diebold OPSCAN Hack
17. Chicago's Sequoia Debacle
18. Who is ES&S?
19. ES&S Democrat Problems
20. ES&S Republican Problems
21. 65% of Vote 2004, 0 Votes 2006!!
22. Diebold Hack
23. Sequoia Hack/Sequoia Multiple Voting
24. Have the Evote Machines been Tested?
: Has ES&S Been Hacked?
25. Optimal Security for Montana's Vote
26. How to Protect Montana's Vote
27. What to Look for on Election Day
28. Suggested Machine Testing Protocol for
Federal and State Elections
29. Acknowledgements

Downloadable Black & White or Color Presentation online at:
http://votetrustusa.org/index.php?option=com_content&task=view&id=1687&Itemid=113

Former Voting Machine Vendor CEO Speaks Out Against The Industry

<http://www.bradblog.com/archives/00002666.htm>

- In the article by Sean Greene of **electionline.org**, the former CEO of failed e-voting company AccuPoll, **Dennis Vadura**, is quoted:
- "I am not happy about the outcome, or the state of the industry. I think that something needs to be done. I'm not sure what it is, it probably doesn't include AccuPoll at this point, but I do not feel that any of the vendors has a system that voters can trust. **I think that vendors outright misrepresent the robustness, stability, and security of their systems. You just have to look at the litany of problems and it points at one thing, bad fundamental design, and not enough checks and balances.** I also wonder why the other vendors were so adamant in fighting a VVPAT system requirement. They spent much more in fighting it than in implementing it."

Recent ES&S Disasters

- (5/24/06) AR - New electronic voting and tabulating machines delayed vote tallies by hours
<http://www.nwaonline.net/articles/2006/05/24/news/01azelection.txt>
- (5/9/06) WV, AR, MO, IN, TX, PA, CA - ES&S ... *“facing investigations, lawsuits, or just plain pissed-off elections officials...”*
<http://www.bradblog.com/archives/00002794.htm>
- 5/25/06) WV – Secretary of State Suing ES&S for Election Failures <http://wvgazette.com/section/News/2006051834>
- 3/16/06) Winkler County, TX - 74% of Votes 2004, 0% 2006!! <http://www.SmithForSupremeCourt.com>

So far Montana's done well: Successful MT ES&S Recount:

"Recount confirms victory for Crowley,
who will take on Engen in mayor's race"

<http://missoulian.com/articles/2005/09/24/news/top/news01.txt>

- "Lou Ann Crowley held on to her election-night victory in Friday's recount of the votes for mayor cast in last week's city primary."
- **"Crowley's lead over the candidate with the next-most votes, Geoff Badenoch, increased from two to five votes.** The recount set her final total at 1,585 votes and Badenoch's at 1,580."
- **"I'm relieved," Crowley said after Missoula County Clerk and Recorder/Treasurer Vickie Zeier announced the final numbers at about 4 p.m. "We had to cast any doubt aside. And we did." [ED NOTE: Zeier is one of two Montana representatives on Federal Election Commission advisory board.]**
- "Crowley and Badenoch watched the recount, which is an open public process, in a room in the Missoula County Courthouse. Badenoch, who requested the recount because the vote was so close on election night, was satisfied that the results are accurate and praised the process."

Polson's Hottest Race

- Tied vote in 2004 Polson, MT area Montana House of Representatives race, led to expensive recount.
- Democrat Jeanne Windham was declared winner by Montana Supreme Court on the basis of five ballots invalidated because of double votes cast for both the Republican and Constitutional Party candidates.
- Unbelievable!! Losing Constitutional Party candidate Rick Jore ordered to pay his court costs and Windham's because he lost race -- even though he didn't contest the election.
<http://www.constitutionparty.com/news.php?aid=222>
- Windham's election gave effective control of the Montana House to the Democrats.
- <http://missoulian.com/articles/2005/05/05/opinion/opinion5.txt>

Montana State Recount & VVPAT Law

- Section 1. Section 13-17-103, MCA, is amended to read: "13-17-103. Required specifications for voting systems. **(1) A voting system may not be approved under 13-17-101 unless the voting system:** (a) allows an elector to vote in secrecy; (b) prevents an elector from voting for any candidate or on any ballot issue more than once; (c) prevents an elector from voting on any office or ballot issue for which the elector is not entitled to vote; (d) allows an elector to vote only for the candidates of the party selected by the elector in the primary election; (e) allows an elector to vote a split ticket in a general election if the elector desires; (f) allows each valid vote cast to be registered and recorded within the performance standards adopted pursuant to subsection (2) (3) ; **(g) may be protected from tampering for a fraudulent purpose;** (h) prevents an individual from seeing or knowing the number of votes registered for any candidate or on any ballot issue during the progress of voting; (i) allows write-in voting; and (j) will, if purchased by a jurisdiction within the state, be provided with a guarantee that the training and technical assistance will be provided to election officials under the contract for purchase of the voting system ; and **(k) uses a paper ballot that allows votes to be manually counted, except as provided in subsection (2) .** (2) A direct recording electronic system that does not mark a paper ballot may be used to facilitate voting by a disabled voter pursuant to the Help America Vote Act of 2002, 42 U.S.C. 15301, et seq., if: (a) (i) a direct recording electronic system that uses a paper ballot has not yet been certified by the federal election assistance commission; or (ii) a direct recording electronic system that marks a paper ballot has not yet been approved by the secretary of state pursuant to 13-17-101; and (b) the system records votes in a manner that will allow the votes to be printed and manually counted or audited if necessary. (2) (3) To implement the provisions of subsection (1)(f), the secretary of state shall adopt rules setting a benchmark performance standard that must be met in tests by each voting system prior to approval under 13-17-101. The standard must be based on commonly accepted industry standards for readily available technologies."
<http://data.opi.state.mt.us/bills/2005/billhtml/HB0297.htm>

**H.B. 177 - CLARIFYING PROCEDURES FOR COUNTING VOTES
WHENEVER A VOTING SYSTEM ERROR IS SUSPECTED DURING A
VOTE COUNT; CLARIFYING COUNT AND RECOUNT PROCEDURES
FOR PAPER AND NONPAPER BALLOTS;**

- **Section 17.** Section 13-15-206, MCA, is amended to read: **"13-15-206. Counting votes -- uniformity -- rulemaking -- definitions.** (1) When conducting vote counts as provided by law, a counting board, absentee ballot counting board, or recount board shall count and determine the validity of each vote in a uniform manner as provided in this section. **[Ed Note: !!ONLY ONE COUNTER!??] (2) A manual count or recount of votes cast on a paper ballot must be conducted as follows: (a) One election judge on the board shall read the ballot while the two other judges on the board shall each record** on an official tally sheet the number of valid votes cast for each individual or ballot issue. Write-in votes must be counted in accordance with rules adopted pursuant to subsection (7) (7) . If a vote has not been cast according to instructions, the vote must be considered questionable and the entire ballot must be set aside and counted as provided in subsection (4) entire ballot must be set aside and votes on the ballot must be handled as provided in subsection (4) . (b) (i) After the vote count is complete, the tally sheets of the two judges recording the votes must be compared. (ii) If the two tallies match, the judges shall record in the pollbook: (A) the names of all individuals who received votes; (B) the offices for which individuals received votes; (C) the total votes received by each individual as shown by the tally sheets; and (D) the total votes received for or against each ballot issue, if any. (iii) If the tallies do not match, the count must be conducted again as provided in this subsection (2) until the two tallies match.
- <http://data.opi.state.mt.us/bills/2005/billhtml/HB0177.htm>

Montana Recount Provisions

- Automatic recount to 1/4 of 1%
- Requested recount to 1/2 of 1%
- May recount “on account of illegal votes or an erroneous or fraudulent count or canvass of votes.”
- What if a county is off 2000 votes? (340,000 total votes in 2002.) That’s over 1/2% and so no recount could be asked for. Former Gov. Don Seigelman in Alabama had this happen to him.

Help America Vote Act (HAVA)

- As a result of 2000 Florida vote debacle, Congress gave states millions of \$ to replace lever and card punch machines and to modernize voter registration databases. HAVA had to be implemented by first election after Jan. 1, 2006.
- Established Election Assistance Commission (EAC) to oversee process but members appointed 9 months late and the EAC was never fully funded.
- EAC was to have established standards for voting machines by 2004. Still has not established standards, so states are purchasing machines that may not meet eventual federal standards.
- HAVA also established that the electronic voting machines had to be tested by independent voting system test labs accredited by the EAC. These labs have yet to be certified and have most of their expenses paid for by the voting machine companies—the same corporations they are supposed to be monitoring.

Optical Scans Get #1 Recommendation

- Most recommended. "Voting: What Is and What Could Be," compiled by researchers at the Massachusetts and California Institutes of Technology, 2001.
- Most used. "Paper ballots and optical scanners are a reliable, mature, accessible and auditable technology that has been proven by its usage in 46% of counties around the United States," remarked Bo Lipari, Director of New Yorkers for Verified Voting .
- Much more economical than DREs - two to three times cheaper. Sarasota, FL found op-scan about half as costly as DREs
- Paper trail
- By biggest company (ES&S)- counted 60 million votes

ES&S Model 650 Central Ballot Counter

- <http://www.essvote.com/HTML/products/m650.html><http://www.essvote.com/HTML/products/m650.html>
- Model 650 Central Ballot Counter
- The ES&S Model 650 Central Ballot Counter is an easy-to-use, high-speed central paper ballot counter and vote tabulator that supports a full range of jurisdiction sizes and ballot complexities. The Model 650 with its advanced OMR scanning technology securely processes a variety of ballot lengths — 14", 17", and 19" — all at a speed of over 300 ballots per minute.
- Features of the Model 650 include:
 - * Ideal for Large Jurisdictions — the Model 650 suits the needs of large jurisdictions with a high number of precincts and multiple ballot types per voter.
 - * Supports Multiple Ballot Lengths — with its adjustable, straight-path design, the Model 650 flexibly supports many ballot lengths and large numbers of ballots.
 - * Easy to Use Display Panel — a simple push button control panel features a two-line, 40-character per line LED message window display that easily walks a user through its operation.
 - * Ensures Ballot Integrity — because the Model 650 automatically alerts the operator of over-votes and blank or damaged ballots, it greatly enhances the ability to capture voter intent.
 - * Simple Report Generation — the Model 650 reporting system enables a user to print Grand Total, Precinct-level, and audit record reports with just the push of a button.

Montana Secretary of State

- Brad Johnson, very concerned about vote integrity.
- Polson recount produced bipartisan support for paper records of Montanans' votes.
- Johnson worked extensively with voter verified paper ballot advocates

<http://www.votetrustusa.org>

▪ ***Downloadable Black & White or Color Presentation online at:***
[http://votetrustusa.org/index.php?option=com_content&task=view
&id=1687&Itemid=113](http://votetrustusa.org/index.php?option=com_content&task=view&id=1687&Itemid=113)

Brennan Center Task Force Finds 120 Evote Security Flaws

- “WASHINGTON, DC - (June 27, 2006) - The Brennan Center [Task Force on Voting System Security](#), an initiative of the Brennan Center for Justice at NYU School of Law, today released a [report](#) (<http://www.brennancenter.org/Machinery%20of%20Democracy-%20Full%208.8.06.pdf>) and policy proposals concluding that all three of the nation’s most commonly purchased electronic voting systems are vulnerable to software attacks that could threaten the integrity of a state or national election.”
- “The report’s findings include:
 - • All of the most commonly purchased electronic voting systems [Ed. Note:--Including ES&S] have significant security and reliability vulnerabilities. **All three systems are equally vulnerable to an attack** involving the insertion of corrupt software or other software attack programs designed to take over a voting machine.
 - • Automatic audits, done randomly and transparently, are necessary if paper records are to enhance security. The report called into question basic assumptions of many election officials by finding that the systems in 14 states using voter-verified paper records but doing so without requiring automatic audits are of “questionable security value.”
 - • Wireless components on voting machines are particularly vulnerable to attack. The report finds that machines with wireless components could be attacked by “virtually any member of the public with some knowledge of software and a simple device with wireless capabilities, such as a PDA.”
 - • The vast majority of states have not implemented election procedures or countermeasures to detect a software attack even though the most troubling vulnerabilities of each system can be substantially remedied.”
 - Quotes from:
http://www.brennancenter.org/presscenter/releases_2006/pressrelease_2006_0627.html

Breaking! - Princeton University

How to Hack Diebold in 1 Minute!!

- See video on how to hack a Diebold machine in 1 minute!!
<http://itpolicy.princeton.edu/voting/videos.html>
- Diebold locks can be opened with standard desk drawer key easily purchased on internet or from office store.
- “Analysis of the machine, in light of real election procedures, shows that it is vulnerable to extremely serious attacks. For example, an attacker who gets physical access to a machine or its removable memory card for as little as one minute could install malicious code; malicious code on a machine could steal votes undetectably, modifying all records, logs, and counters to be consistent with the fraudulent vote count it creates. An attacker could also create malicious code that spreads automatically and silently from machine to machine during normal election activities — a voting-machine virus.”
<http://itpolicy.princeton.edu/voting>

U Conn's Diebold Op Scan Hack- It's Not Just Touch Screens Anymore

- <http://www.newsday.com/news/local/wire/connecticut/ny-bc-ct--votingmachines1101oct31,0,1315483.story?coll=ny-region-apconnecticut>
- "The optical scan devices, which automatically read paper ballots filled out by voters, can be compromised in a matter of minutes by tactics such as neutralizing one candidate so his or her votes aren't counted or swapping the votes of two candidates, the report said."
- WHY WE NEED ELECTION DAY CARD DECK TESTING!!! "Such tabulation corruptions can lay dormant until the Election Day, thus avoiding detection through pre-election tests," according to the report.
- According to the report, the UConn professors determined that a laptop computer user with a simple computer cable can obtain information from the memory cards of the optical scan machines. They also determined there are ways to feed multiple ballots into the machine when an attendant is not watching.
- "Poll workers must not be allowed to take their eyes off the machines, and should be wary of attempts at distraction," the report reads.
- Analysis of full report: <http://avi-rubin.blogspot.com/2006/10/uconn-voter-center-report-diebold-av-os.html>

Chicago Sequoia Debacle

http://www.americanfreepress.net/html/chicago_ballot_chaos.html

- In one precinct on the Near South Side, for example, the Sequoia optical scanner failed to register anything but Republican ballots. Although “election officials” tried to repair the machine four times, by the end of the day it had failed to register a single Democratic ballot in a precinct in which some 86 percent of the voters are Democrats.
- [...]counting of the votes is managed by some two dozen employees of Sequoia Voting Systems, a privately held foreign company. These employees, many of whom are **[Venezuelan and non-] U.S. citizens, have “full access” to the “back room area,”** a sealed-off section of the 5th floor of the county clerk’s office which is called the “tally area.”
- the Sequoia system failed to produce any results for nearly two hours. Only 44 percent of the precinct results had been reported four hours after the polls closed.
- The ballots and votes from more than 400 precincts were still uncounted two days after the election due to machine malfunctions and lost memory cartridges which contain the results.
- Reports from other dailies noted that as of noon Wednesday, Chicago was missing memory cartridges from 252 polling stations while Cook County officials “couldn’t find” the results from 162 suburban precincts.

Who is ES&S?

- Urosevich Brothers hold major power in both ES&S and Diebold - <http://www.ecotalk.org/VotingMachineCompanies.htm>
- Original Funder Howard Ahmanson - a Christian Reconstructionist - http://www.bestoftheblogs.com/2003_02_05_bestof.html
- Neb. US Sen. Chuck Hagel holds \$5 mil stock in McCarthy Group, a minority shareholder of ES&S' owner, Omaha World-Herald - <http://www.ecotalk.org/VotingMachineCompanies.htm#ES&S>
- Senate Ethics Committee Chief Counsel Victor Baird resigned after ruling that Hagel's investment in the McCarthy Group did not seem to qualify as an "excepted investment fund." The next Monday afternoon Baird's replacement, Robert Walker, provided a new, looser interpretation of "publicly available." Hagel still holds ownership in McCarthy Group (and ES&S). - <http://www.hillnews.com/news/012903/hagel.aspx>

ES&S Democrat Problems

- 2000 - Cancelled Venezuelan election
- November 2002 - Dem Al Gov. Don Siegelman won reelection by just over 6,000 votes, but the next morning an ES&S vote tabulation error in Baldwin County removed 12,000 votes and he lost. A recount was denied because his losing margin was outside the difference allowed for recounts under AL law.
- March 2006 -Detroit - Folded ES&S absentee ballots repeatedly jammed the machines and forced polling officials to open machines to straighten out the ballots.
- March 2006 - Wilkes-Barre, PA – Election officials revealed Tuesday that the company picked on Jan. 31 can't provide 750 electronic voting machines it previously allotted to Luzerne County or the training support to carry out the process.
- November 2004 - Pike County, Arkansas Damaged ES&S op scan lost nearly 700 votes.
- 2004 - Grays Harbor, WA - Recount of 28,000 ballots after ES&S Unity system showed too many votes. Recount changed the hugely contested outcome of the Washington Governor's race in Grays Harbor County.

ES&S Republican Problems

- April 2006 -Indiana “Once again a voting machine company (ES&S) is breaking the law.” <http://www.wishtv.com>
- 1998 - 41,000 uncounted votes in Dallas
- March 2006 -85% failure rate of iVotronic Personal Electronic Ballots in Marion County, IN
- March 2006 - Summit County, OH - 30%, then 10%, then 5% failure rate in Ohio optical scan memory cards and, later, very high rate in North Carolina. In spite of NC law requiring notification if problems exist, no notification from ES&S. Marijean Donofiro, Elections Board, “They’ve been referring to the cards as finicky,” she said of ES&S. “If that’s the case, if they work fine in May, will they work fine in November?”
- 2004 -- 131% turnout Sandusky County, OH
- 2004 - 10,000 phantom votes in Sarpy County, Nebraska and Lancaster County, NB reported that the op scan machine software was reading some ballots twice.
- Conservative former Texas Supreme Court Justice **Steve Smith received 65% of the vote in Winkler county in 2004. He purportedly received 0% from ES&S machines in 2006.**

65% of Votes 2004, 0% 2006!!

- “Additionally, in far west Texas, Winkler County, which went for Smith by margins of 260-92 (74%) and 468-249 (65%) in the 2002 and 2004 elections, went against Smith by an unbelievable 0-273 (100%) margin. Governor Perry received only 83% of the vote in Winkler County, and no other contested candidate topped 80%. The propositions on the ballot topped out at 93%. “ <http://elections.sos.state.tx.us/elchist.exe>
- “Winkler county used machines from Election Systems and Software (ES&S), a company that was severely criticized by county officials in Webb county for programming errors and delays during the primary election, according to reports from the Laredo Morning Times of March 14, 2006. ES&S machines operate in 144 of Texas's 254 counties. “
 - Steve Smith For Texas Supreme Court, Place 2
 - www.SmithForSupremeCourt.com, Press Release: (March 16, 2006)
 - CONTACT: David Rogers, Campaign Manager, (512) 923-6188

Diebold Hack

- Ion Sancho, Elections Supervisor, Leon County, FL approved attempted Diebold hack
<http://www.leonfl.org/elect/MeetTheSupervisor.htm>
- Harry Hursti hacked machines in 3 minutes with his own memory card
- Demonstration changed vote of 2 for 6 against into a vote of 7 for and 1 against w/ no record of change
- ES&S won't provide machines, nor will Sequoia
- Now, Diebold and Alaska Secretary of State resist the request of the Democratic Party for the raw 2004 results saying that to show results would endanger national security - http://www.sitnews.us/0106news/012406/012406_diebold.html

Sequoia Hack/Sequoia Multiple Voting!! (11/2/2006)

- Sequoia chosen by Chicago after exhaustive 3-year search. Search headed by County Clerk David Orr.
- Pennsylvania test-hacked machines
- Sequoia Advantage hacked in Pennsylvania by Carnegie Mellon Professor Dr. Michael Shamos <http://www.philly.com/mld/philly/news/14229311.htm>
- During "tampering tests" that he was able to instantly "transform a handful of votes into thousands." Results so skewed that "he has now simply shut down the entire process described as 'pointless' due to all of the errors in the software."
- 11/2/2006!!! <http://www.bradblog.com/?p=3714> Just push the yellow button [on the Sequoia electronic voting machine]and you can vote as many times as you want," Tom Courbat, an Election Integrity advocate from Riverside County, California informed The BRAD BLOG tonight. Not that we're in any mood to report more such stories, but this seems to be a big one. A very big one. It seems there's a little yellow button on the back of every touch-screen computer made by Sequoia Voting Systems , that allows any voter, or poll worker, or precinct inspector to set the system into "Manual Mode" allowing them to cast as many votes as they want.

Have E-Voting Machines Been Tested? No Known ES&S Hack Yet Attempted

- The Election Center - Former used computer salesman R. Doug Lewis administers the testing process along with Nat'l Assoc. of State Election Directors - neither of which have money to check if labs continue to update testing or to check on contracts between ITAs (Independent Testing Authorities) and individual voting machine companies.
- CIBER and SYSTEST LABS in Colorado, test software for vulnerabilities under 2002 standards that don't include tests for the latest vulnerabilities. WYLE Labs tests the hardware, but refused to tell the CA SOS what they test and won't say what voting companies they test equipment for.
"State law requires [ITA] approval before the device could be used by California voters. It guaranteed the machines counted votes accurately and would work reliably during an election. As the state's top election official, CA SOS Kevin Shelley figured he could get a quick answer.

"He figured wrong. Wyle Laboratories of El Segundo refused to discuss the status of its testing of the AccuVote-TSx machine made by its client, Diebold Election Systems. The information was proprietary, Wyle said, and could be revealed only to Diebold."

http://www.calvoter.org/news/blog/2004_05_01_blogarchive.html

- "Election officials spooked by tampering in a test last week of Diebold optical-scan voting machines should be equally wary of optical-scan equipment produced by other manufacturers, according to a computer scientist who conducted the test...."

....Thompson said. "We know the Diebold machines are vulnerable. **As for ES&S, we don't know that they're bad but we don't know that they're (good) either.**"

Wired Magazine -- <http://wired.com/news/evote/0,2645,69893,00.html>

Montana Vote Security

How can
Montanans' votes
be Safe
and Secure?

Downloadable Black & White or Color Presentation online at:
[http://votetrustusa.org/index.php?option=com_content&task=view
&id=1687&Itemid=113](http://votetrustusa.org/index.php?option=com_content&task=view&id=1687&Itemid=113)

How to Protect Montana's Votes

- 1) Stay with same system but radically increase security.
- 2) Use Montana technicians only. Don't allow outsiders to run or program our machines. Criminal and work related background checks.
http://votetrustusa.org/index.php?option=com_content&task=view&id=1429&Itemid=113
- 3) Mandatory Statewide Random 5% recount on election night.
For Parallel Election setup: <http://www.ecotalk.org/ParallelElections.htm>
- 4) Better pre-election audit procedures see:
<http://www.washburnresearch.org/archive/TestingGuidelines/TestingVotingMachinery.html>
- 5) Full paid right of recount for any candidate or citizen group, no matter what differential. However, state pays recount costs if errors of 1/2 of 1% or election changing results are found.
- 6) Recount can be for precinct, county, or entire state. Recount error of .5% at precinct level can trigger free county-wide recount. County wide error of .5% can trigger free state-wide recount.
- 7) Candidates or citizens can share cost of recounts.
- 8) Try to hack the ES&S machines!!! Diebold hacked by Harry Hursti in Leon County, FL and Sequoia hacked by Michael Shamos in PA
- 9) Try to Hack ES&S!!! Zero attempted public hacks of ES&S so far. ?Conflicts with Section 13-17-103, MCA, Clause (g)—protection from tampering for a fraudulent purpose? Also, Montana State Law H.B. 297 - voting machine may only be allowed if it "(g) may be protected from tampering for a fraudulent purpose;" [and] "the secretary of state shall adopt rules setting a benchmark performance standard."

What to Look for on Election Day (from Montana League of Women Voters)

- 1) ***!!!! Are election officials doing an unannounced, random test of 5 % of all voting machines on election day? This is required by the SoS Election Rules adopted on Oct. 16th.
- 2) Is testing done in "testing mode" or "election mode?" Only the latter gives a result that parallels a real election because the programing is different.
- 3) What has been the "chain of command" for all ballots, memory cards and voting tabulators? Were secure seals placed on the memory cards and seal numbers recorded?
- 4) At the polls: Are provisional judges telling voters their provisional vote won't count if it is cast in the wrong precinct? Are poll workers asking for "ID," not "photo ID." Are scanning judges watching carefully the scanners, the critical machines where votes are counted? Does the poll manager have witnesses when she/he sets up the voting machines at the polls and closes them down at night? Did any voting machines (M100's and AutoMARK for the disabled) freeze or otherwise malfunction? What was the result?
- 5) Are personnel responding to problems in such a way that shows they received adequate training to handle them?

Machine Testing Protocol for Federal Elections

- 1) See also:<http://www.washburnresearch.org/archive/TestingGuidelines/TestingVotingMachinery.html> This is the protocol for the simplified testing of a federal race: This is specific to Montana which has neither straight party voting nor has ballot rotation from precinct to precinct. Failing to implement these 2 ballot configuration properties are the source on many of the ballot definition errors found at: <http://www.votersunite.org/info/messupsbyvendor.asp> What remains is the implementation of mark detection, overvote detection and write-ins.
 - 2) For each of the federal races you are interested in (e.g. US Senate) create the following test ballots 1. Zero mark ballot-pristine. This tests that the ballot programming properly rejects a ballot with no votes. 2. Zero mark ballot-blackout. This test ballot is blackened everywhere EXCEPT for the timing marks on the edge and the places next to a candidate name. This tests that the ballot programming is reading ONLY in the ovals (or arrows) designated for marking. This ballot too should be rejected as empty.3. Single mark ballots; one ballot for each ballot line of the race you are testing. This tests each individual designated marking location is registering a mark and translating the mark into a vote for the proper candidate. The ballots with a mark for Write-in should segregate into the separated lockbox.
 - 3) 2 - mark ballots; one ballot for each possible pair of ballots lines in the race you are testing. The 2 marks should be confined to ballot lines for a single race. This tests the detection of over-voting and tests the behavior of a ballot with a mark for a candidate and a mark for write-in. In many states, such a 2-mark ballot is a vote cast for Write-in. Other states it is a vote cast for named candidate. and in other states it is an over-voted ballot. I do not know Montana law on this. For example: if you are testing the US Senate race and there are the following 4 Ballot lines: A - Democrat Candidate B - Republican Candidate C - Constitution Candidate D - Write-In Candidate You would need to make the following 2-mark ballots: AB, AC, AD, BC, BD, and CD.
 - 4) Multi-mark ballots; enough extra ballots to insure the expected total vote count for each ballot line is distinct. This tests that marks are accruing votes to the correct candidates and that there is not any line swapping. For the senate example above (I will assume ballots AD, BD and CD accrue a vote for write in) the expected vote tallies for the 4 decks above is: A = 1, B = 1, C = 1, D = 4. Without tally distinction how would you know if ballot line 1 and ballot line 2 are swapped; i.e. Ballot line 1 accrues votes to candidate B and Ballot line 2 accrues votes to candidate A. To achieve Tally distinction you need 3 more ballots: 1 with a mark for B, and 2 ballots each with a single mark for C. The expected results then become: A = 1 (1 from 1-mark ballot), B = 2 (1 from 1-mark ballot, 1 from the tally distinction ballot), C = 3 (1 from 1-mark ballot, 2 from the tally distinction ballots), D = 4 (1 from 1-mark ballot, 3 from the ballots where the ballot was marked for both a candidate and a write-in. The total test deck for this example is: $2 + 4 + 6 + 3 = 15$ test ballots.
 - 5) If you test more races, the test ballots which can be dropped with the least damage are the 2 mark ballots which are candidate-candidate. The assumption being that the code which detects ballot AB as an overvoted ballot is the identical code which detects BC as an overvote. If this assumption is true then you need only one of the following 2-mark ballots in the example test deck: AB, AC, or BC. If you have a specific ballot structure and a specific set of races, I would be happy to create an excel spreadsheet with the test ballots needed to test the ballot definition for encoding mistakes.
- John Washburn, john.washburn@silvertaining.com, Cell 414-375-5777, h. 262-238-8940, w, 920-722-2848, x 2120, Full testing protocols at: <http://www.washburnresearch.org/archive/TestingGuidelines/TestingVotingMachinery.html>

Special Thanks

- John Gideon, Executive Director of www.VotersUnite.org and Information Manager for www.VoteTrustUSA.org for his Daily Voting News service, which can be found on the two previous websites and on www.BradBlog.com
- Joan Krawitz, Executive Director of www.VoteTrustUSA.org (630) 428-1488.
- Rikki Danielson and Craig Holtorf of Missoula Community Access Television, www.MCAT.org
- David Dill, Bob Kibrick, Bev Harris, Rebecca Mercuri, US Rep. Rush Holt, Michelle Mulder and Molly Galusha.
- Joan Brunwasser. Her summary of recent verified voting actions, analyses and revelations is at:
http://www.opednews.com/articles/opedne_joan_bru_060713_post_script_to_22invi.htm
- For more info: Gardenearth@aol.com
- ***Downloadable Black & White or Color Presentation online at:***
http://votetrustusa.org/index.php?option=com_content&task=view&id=1687&Itemid=113
- VIDEO of presentation available from <http://www.MCAT.org>