



**2006-2007 Yuba County Grand Jury
Final Report**

**Yuba County Office of the Clerk/Recorder & Registrar of Voters:
Sequoia Direct Record Electronic Voting System**

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Subject of Investigation

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Sequoia Direct Record Electronic Voting System**

Reason for Investigation

In response to the many concerns expressed over the integrity and security of the electronic voting equipment used by Yuba County in the November 7, 2006 election, the Grand Jury felt it was appropriate and important to learn more about this controversial voting method. Every effort was made to investigate and address the voters' concerns related to the Sequoia Direct Record Electronic (DRE) Voting System. The Grand Jury's preliminary investigation revealed that most voters' apparent concerns were accuracy, reliability, and security of the equipment upon which they cast their votes. This was brought to the Grand Jury's attention by published reports in local media. Therefore, the purpose of this investigation was to review the means and measures this county has taken to ensure this method of voting was in fact accurate, reliable, and secure.

Background

In an effort to prevent a recurrence of the difficulties experienced in the 2000 presidential election, the federal government enacted the Help America Vote Act of 2002. At the same time, the voters in California passed the Voting Modernization Act of 2002. Both of these measures provided funds to upgrade voting equipment. These laws created incentives for Yuba County to move away from outdated voting systems such as paper ballots and mechanical voting units, and to purchase new electronic voting equipment. This has led some members of the public to raise concerns in printed media and elsewhere regarding the security of this voting method, and thus the integrity of the election itself.

Method of Investigation

All interviews and investigative activities were conducted by two or more jury members and all documents were obtained in the same fashion. One grand jury member did not participate in the investigation due to conflict. Jurors reviewed the Help America Vote Act, the California Voting Modernization Act, the California Secretary of State's "Approval of Use of the Sequoia Voting

Systems, Inc. DRE ... Voting System” (approved in March 2006), and California’s Uniform Vote Counting Standards (effective March 2006). Jury members interviewed personnel in the Office of the Clerk/Recorder, toured the county’s secure storage area, and participated in the poll worker’s training seminar which included a hands-on demonstration of the DRE voting system. Grand Jurors visited with representatives from Sequoia Voting Systems, Inc. and Forefront Electronic Solutions, LLC. Members consulted with staff from the county’s Administrative Services Information Technology (IT) Division, personnel in the County Administrators Office, and a member of the Yuba County Board of Supervisors. Jurors reviewed HBO’s television documentary “Hacking Democracy” which aired on November 2, 2006. Additionally jurors observed many of the other activities associated with the November 7, 2006 election including absentee ballot tabulation, Election Day opening and closing of the polls, vote tabulation on election night and the mandatory one percent (1%) recount during the final canvass.

Facts and Observations

Accuracy

Yuba County election officials believe the DRE voting equipment is free from error. In June 2006, the county had the opportunity to perform a hand recount of a close race. This recount was witnessed by the affected candidates, their attorneys, and members of the public. The result of this hand count, using the Voter Verified Paper Audit Trail, was exactly the same as the results reported by the touch screen systems.

Reliability

County officials are confident that the November 7, 2006 election results are reliable. The DRE voting equipment is designed to prevent the casting of an invalid, over-voted ballot, i.e., one that has more than the maximum number of votes allowed in a particular race. The machine also identifies and warns the voter about an under-voted ballot, i.e., one with less than the maximum number of votes. The DRE voting system gives the voter the opportunity to review the ballot screen in a private and independent manner, and allows them to change or correct any errors before the ballot is cast. This includes the opportunity to correct the error through the issuance of a replacement electronic ballot if the voter is otherwise unable to change or correct an error. After voting, a person may request verification that their vote was cast.

The DRE voting equipment produces a permanent paper record, the Voter Verified Paper Audit Trail (VVPAT), with a manual audit capacity that allows the voter to review the ballot and correct any errors before the permanent record is produced. This record will be available as an official record for any recount that may be conducted.

In addition, all county poll workers undergo a training program consisting of a four-hour seminar. At the seminar, the poll worker’s handbook was reviewed and workers were trained in all aspects of opening and closing the polls, use of the DRE machines, assisting the handicapped and other related activities. The poll workers left the training seminar well-informed and ready for Election Day.

However, on November 7, 2006 some poll workers became anxious when opening and closing the polls, both critical periods in the election process. In their haste some important steps were performed out of sequence. These events however did not compromise the integrity of the voting equipment.

Security

The county's storage of pre- and post-election materials and equipment is based on a system of limited access. All staff wear coded badges that limit access to secure locations, and all visitors must have a staff escort and wear an orange visitor lanyard. All doors have combination locks that identify and record personnel entering and exiting the location. All material and equipment transactions are performed and witnessed by a sworn member of the staff. At no time does the vendor or manufacturer have access to the electronic equipment. No component of the DRE voting system is ever networked or connected to the Internet. No official results are received or transmitted through the public telephone system or through wireless communications of any type.

Once each DRE unit has passed logic and accuracy testing, the vote counters are zeroed and the "polls open/polls closed" cover is secured with a red tamper-evident seal. Next, a numbered result cartridge is programmed and immediately inserted into a numbered DRE unit. The port is then closed and covered with blue tamper-evident tape. A written chain-of-custody log records which result cartridge and which tamper-evident seals are assigned to which DRE voting unit. This log and the DRE units are then placed in different secured storage areas until Election Day when the DRE units are identified. All seals are verified and recorded in the chain-of-custody log and the precinct's accountability sheets before they are delivered to polling places. DRE units are delivered to the polling places while accountability sheets and other election materials are picked up individually by the precinct inspectors. All of these procedures are performed and witnessed by deputized election officials.

On Election Day, prior to any ballot being cast, the integrity of all the tamper-evident seals and tapes are checked and the serial numbers of the seals are verified against the written accountability sheet. If a seal has been broken or there is a discrepancy between the log and the serial number, the condition is confirmed by one or more precinct officers. The problem is documented and the unit is immediately taken out of service and reported to county election officials. The machine will then undergo a full manual reconciliation of the electronic votes cast and captured on the result cartridge against the VVPAT.

Next, each red "polls open/polls closed" seal is broken, the cover is lifted, and the "polls open" switch is activated. The cover is closed and secured with a black tamper-evident seal. This number is then recorded on the accountability sheet. Lastly, the public vote counters are checked to make sure they are at zero and voting can begin. All of these procedures are performed by the sworn precinct inspector and another precinct officer.

At the end of the day, the integrity of all the tamper-evident seals and tapes are again checked and the serial numbers of the seals are verified against the written accountability log. The black "polls open/polls closed" seal is broken, the cover is lifted and the "polls closed" switch is activated. The public vote counters are verified, and the result cartridge is removed. The cartridge and the seals are placed in a clear zip-type bag which is then sealed with a red tamper-evident seal and returned to the Elections office by volunteers with the Sheriff's Team of Active Retired Seniors or precinct inspectors. Each result cartridge is inserted into a reader which transfers the data to the stand-alone server where the votes are tabulated. For additional security the VVPAT is returned to the elections office separately by deputized rovers, or the precinct inspectors.

Accessibility

During the course of its investigation, the Grand Jury identified an additional concern, that of access to the machines by voters with special needs. The DRE machines can be easily adjusted to be wheelchair accessible with the assistance of a poll worker. Options for visually impaired voters include devices that ensure the ability to privately and independently cast a vote. Voters with visual or reading comprehension disabilities may have all necessary information read aloud by the machine.

Findings and Recommendations

Finding 1

Yuba County has implemented in-depth security measures to protect and ensure the integrity of their voting equipment.

Recommendation 1

None.

Finding 2

Poll workers are well-trained, but became anxious and tended to rush through the various processes which resulted in delays in the opening and closing of the polls on Election Day 2006.

Recommendation 2

The Yuba County Office of the Clerk/Recorder should develop a checklist to assist the poll workers with the correct steps for opening and closing the polls.

Finding 3

The policies and procedures adopted by the county, and the redundancy built into the DRE machines, ensured that every vote cast was accurately and reliably counted.

Commendation

The Clerk/Registrar of Voters and her Elections staff are to be commended for their commitment to the citizens of this county and for their interest and professionalism in carrying out the necessary procedures that ensured the vote was accurately counted in Yuba County. It is through this type of performance that county employees and precinct volunteers can maintain the respect of the citizens they serve.

Penal Code sections 933 and 933.05 require a response to all findings and recommendations.

PASSED and ADOPTED by the Yuba County Grand Jury on the 21st day of November 2006.