

South Carolina's Voting Machines II: Auditing the Voting Machines

In the Winter 2011 SC Voter we described problems with counting the vote in Colleton and Lancaster counties and incorrect information at the State Election Commission. In this issue we describe problems with counting the vote in Richland, Horry and Charleston counties and present additional detail on the cost of operating the ES&S voting equipment.

Richland County provides examples of poll worker error. Poll workers are instructed to collect votes from the voting machines on a Personal Electronic Ballot (PEB) and remove the flash memory cards (similar to the memory card in a digital camera) when they close the machines. Both the PEB and the flash memory are to be returned to the county election office on election night for use in computing the total vote, but in Bluff Precinct the information from only two of eight voting machines was collected on the PEB.

Someone in Richland County observed that only 254 votes were certified for Bluff Precinct but thought that the voter turnout was much higher. When the voting machines used in Bluff Precinct were located, they had not been properly closed, their information had not been collected to a PEB, and the compact flash memory cards had not been removed. It was too late to include the uncounted 772 votes in the certified totals.

Also, too few votes were reported in Ward 21. Violating protocol, poll workers used two PEBs, to close six voting terminals. The 339 votes from one PEB were included in the certified totals, but 355 votes on the second PEB were not.

Poll worker errors in Bluff Precinct and Ward 21 caused the failure to count 1127 votes. These poll worker errors could have been detected by procedures that accounted for all PEBs and flash memory cards.

Because the above errors had been discovered and the information on the PEBs and flash memory cards entered in the Election Report Manager, the data files for the election contained the corrected information. Our group rediscovered these errors when attempting to reconcile the data in the files with the certified vote totals. We probably would not have been able to identify the cause of these errors if the uncounted votes had not been added to the Election Report Manager data files.

Another type of error occurred in Gadsden and Riverside precincts, where 1454 certified votes were missing from the vote image file, which we used to audit the count of votes reported on each machine. When vote information is missing from the vote image file, the correctness of the reported vote cannot be verified. Missing the file of votes cast on a machine is analogous to an accountant finding a payment, but not a corresponding invoice. This kind of error could have been detected, but was not.

Horry County. We are finding anomalies, including 114 uncounted votes in one precinct, but analysis is not complete. Horry County electronic files are missing some data from 53 of 125 precincts.

Charleston County also provided incomplete vote image files, preventing an accurate audit. There were 5,499 votes certified in the June primary and 93,549 votes certified in the November General Election for which Charleston County has not been able to produce electronic vote images.

Colleton County update: The State Election Commission (SEC) called in technical experts from the voting machine manufacturer (Election Systems & Software) when neither Colleton County nor the SEC was able to produce a reliable report of the vote cast.

We intend to report on additional counties in future issues.

Problems in Conducting the Audit

The current ongoing audit of voting data from electronic data files can, if the files are complete, produce a recount of an election. Although a recount is required by law in some circumstances (SC Code of Laws: SECTION 7-17-280. Mandatory recounts) no actual recount of the ballots is done in South Carolina. Instead, the SEC instructs the counties to sum the totals from the precincts a second time by collecting summary information from the PEBs a second time. And they do, indeed, sometimes get a different count. Marci Andino, Executive Director of the SEC, attributes a different result to a county election director's omitting a PEB from the initial count. The recount that the State Elections Commission is not doing is now being conducted under the auspices of the League of Women Voters of South Carolina¹.

If the record of the actions of the Election Report Manager, the manual adjustment log file, the vote image file, and the event log file are available, an audit can confirm that votes from all voting machines are correctly reported. But, the files obtained from the counties are rarely complete, making an audit difficult, and sometimes impossible.

Another auditing problem is verification of the total votes when elections officials enter many votes manually. In Richland County, thousands of votes were manually entered into the system on Election Night -- sometimes incorrectly.

In most counties paper ballots (absentee, failsafe, etc.) are read on an M-100 optical scanner, which produces a paper tape and an electronic record on a card, but does not produce electronic files that we can use for auditing. SEC procedures call for rescanning the ballots using the same scanner that counted them the first time -- a procedure that may not detect the types of problems that usually occur with paper ballots.

The problems we have uncovered are not fraud and are not even the result of the known flaws in the programs that control the calculations. These problems are the result of poll workers not following instructions, PEBs and flash memory cards not being counted at the county office, and the absence of computer programs to check that all machines have had their votes correctly recorded. The stress of long hours and the pressure to produce vote totals quickly for the media on election night make the current voting system even more unreliable. Regrettably, the audit of the electronic data files cannot be relied upon to detect hacking of the system because the files themselves could have been altered.

More on Election Costs

South Carolina counties will pay over one million dollars² this spring to Election Systems & Software (ES&S), the manufacturer of our voting system, for annual “break/fix” and firmware contracts. This year’s contracts contain a 7% across-the-board increase over contracts for the previous year. Counties also pay state sales tax on these and all other purchases from ES&S.

Sumter, Greenville, Lexington and York are among the counties that have purchased used, refurbished iVotronics, costing about \$2,000 each. Additional costs include preparation of audio ballots by ES&S, replacement of batteries, and repairs not covered by contracts.

Submitted by Duncan Buell and Eleanor Hare

¹ This audit is being conducted under the auspices of the League of Women Voters of South Carolina by Dr. Duncan Buell, Mr. Frank Heindel, Mr. Chip Moore and Dr. Eleanor Hare. For more information see <http://lwvsc.org/audit.html>.

² <http://clemsonarea.sc.lwvnet.org/files/ESSspreadsheet.pdf>