

# Electronic Ballot Counting Device Advisory Committee

## Meeting Minutes of December 15, 2008

71 South Fruit Street, Concord, NH HAVA Conference Room

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### Members Attendance:

Walter Fries, Moderator, Danville  
Representative Richard Drisko  
Representative Robert Perry  
Adrienne Hutchison, Public Member  
Asst. Sec. of State Anthony Stevens  
Asst. Sec. of State Thomas Manning  
Representative Suzanne Harvey (@3:00pm)

### Departments of State & Justice:

Deputy Attorney General Orville Fitch II  
Deputy Secretary of State David Scanlan  
Assistant Secretary of State Daniel Cloutier

### Guests:

Mr. John Silvestro, LHS Associates  
Mr. Jeffrey Silvestro, LHS Associates

Prior to the Call to Order, Mr. Scanlan informed the committee members that Chairman Stritch was incapacitated and had asked that Mr. Manning act in his stead.

### **I. Call to Order**

Mr. Manning called the meeting to order at 1:10 p.m.

### **II. Minutes of the September 29, 2008 Meeting**

Mr. Stevens provided copies of the September 29, 2008 Electronic Ballot Counting Device Advisory Committee meeting minutes. Ms. Hutchison moved acceptance of the minutes, Mr. Stevens seconded the motion. Several amendments were suggested by the members present. The chair called the question. All voted in favor of adopting the minutes as amended.

### **III. Meeting Business**

- **Presentation on the AccuVote-OS Precinct-level Optical Scan Machine**

Mr. Manning recognized Assistant Secretary of State Daniel Cloutier for a presentation on the AccuVote-OS Precinct-level Optical Scan Machine that is used by many of the cities and towns in the State of New Hampshire and throughout New England for ballot counting. Mr. Cloutier's presentation consisted of the following:

- Mr. Cloutier gave a general explanation and demonstration of the features of the ballot box upon which the Accuvote rests.
- Mr. Cloutier provided an explanation and demonstration of the use of multiple bins within the ballot box to separate ballots with write-in candidates from other cast ballots and the use of the side pocket for storage of ballots that cannot be processed through the machine; these would include ballots that were produced by the Accessible Voting System or preprinted ballots that, due to moisture content, stains or tears, might not be accepted and read by the machine read heads.
- Mr. Cloutier explained that a ballot could be recorded by the machine as BLANK even though a voter had marked the ballot. This would occur in the case of an over-vote

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where the voter exceeded the number of selections available in a particular race. For example, if a voter marked a ballot for four candidates in a three-seat race ("Vote for not more than 3"), the machine would record three BLANKS; one BLANK for each seat available to be voted upon that, due to the over-vote, could not be counted.

- The mechanical device (diverter) used to segregate ballots marked for a write-in candidate from other cast ballots was explained and shown to the committee. LHS representatives asserted that the diverter has been modified to eliminate certain problems that have arisen in the past that had caused write-in ballots to be diverted away from the write-in bin.
- Mr. Cloutier demonstrated to the committee how the AccuVote-OS was inserted into and removed from the top of the ballot box. The AccuVote-OS must be slid in and out along metal strips that are intended to prevent lifting the machine out of the ballot box. This particular demonstration reinforces the need for security of the keys that unlock the ballot box and allow access to the AccuVote-OS.
- Mr. Cloutier described the various seals used to secure the AccuVote-OS and demonstrated their use. The importance of seals was demonstrated when the AccuVote-OS was partially disassembled and the top panel removed, providing access to the memory card from the inside. The seals employed to prevent this type of unauthorized access are tamper-evident label style adhesive seals that are designed to reveal attempts at removal. The tamper evident seals used to lock the machine carrying case and to secure the memory card in its port are mechanical wire seals that are designed to be destroyed if there is a successful effort to remove the memory card.
- The firmware chip that contains the program that runs the AccuVote-OS, was discussed.
  - The present firmware version approved for use by the State of New Hampshire is the 1.94.w. This particular firmware allows negative loading, i.e., a negative number of votes can be added for one candidate and an equal number of positive votes entered for that candidate's opponent, giving the opponent a vote edge before the election begins. The equal number of negative and positive votes will yield a zero vote read-out during pre-election testing. This could lead election officials to believe that there are no votes in the system and the machine is ready for voting in the election.
  - A newer firmware version 1.96.6 contains the same flaw. The machine batches all races and if the total equals zero, it prints a zero report. Recent firmware versions avoid this problem by checking each individual race for votes before printing a zero report. The 1.96.8 and later releases also have a digital signature.

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- Representatives from LHS Associates, John Silvestro and Jeffrey Silvestro, discussed certification and software.
  - If any component of a system is changed, the Feds now require the entire system to be recertified. This adds time and expense to the certification process.
  - LHS has two software versions available for ballot programming – GEMS and VTS. GEMS is Windows-based and VTS is UNIX-based. At first LHS had thought that only GEMS could be used to program the State’s column-style ballot but the vendor now knows that VTS can be used, although the process takes longer. VTS is incompatible with the 1.96.6 firmware; both VTS and GEMS are compatible with the 1.94w firmware.
  - Mr. Silvestro insists that the “Hursti Hack”, by which Mr. Hursti was able to demonstrate that memory cards could be altered in order to tamper with an election, wasn’t a hack at all but an inside job performed by someone who had complete access to a voting machine and the memory card.
  - It is a felony in New Hampshire to tamper with voting equipment; any tampering with memory cards is a serious crime.
  - An AccuVote-OS tabulator was opened to provide an internal view of the machine. The AccuVote-OS is manufactured with the capability to export vote totals via a telephone port on the back of the machine. These ports are protected by the ballot box when voting is taking place. LHS recommends that the ports be covered with the adhesive seals provided for that purpose. Mr. Silvestro does not know whether any of the machines used in this state had telephone modems installed. The machines have no wireless capability.
  - There is a clock chip that is used to indicate when the machine is turned on and off. It doesn’t recognize Daylight Savings Time. Local officials must check to be certain that the clock is accurate.
  - When asked to distinguish between versions 1.96.6 and 1.18.25, Mr. Silvestro responded 1.18.25 is a version of GEMS election management software, while the 1.96.6 is a firmware chip that is installed in the Accuvote-OS optical scan tabulator.
  - When asked if GEMS 1.18.25 would prevent a “Hursti Hack”, Mr. Silvestro

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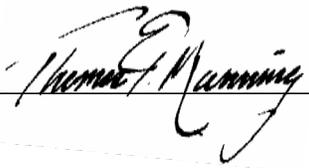
responded that it would resist an attack when used with a more recent firmware version.

- When asked if the AccuVote-OS 1.94.w firmware version, approved by the Ballot Law Commission in March 2006, would allow a “Hursti Hack”, Mr. Silvestro said that it would allow such tampering if the city or town clerk cooperated.
  - In response to questions, Mr. Silvestro stated that the current machines are approximately seventeen years old but have undergone several upgrades. The price is approximately \$6,500.00 each. Memory cards cost LHS between \$150.00 and \$175.00 each, and are priced at \$250.00 each.
  - LHS was asked to explain what may have caused a machine to fail to tabulate any votes for the first twenty minutes of voting after it had passed its pre-election testing. Mr. Silvestro responded that a piece of paper may have broken off and became lodged up under a read head. Apparently this had occurred in Rochester Ward 3 during the last election according to the questioner. (Note: The problem might also have resulted from a clock chip that had fallen 20 minutes behind and had not been checked and reset during pre-election testing.)
  - LHS was asked about a ballot that, due to election worker error, is run through the machine twice and thus counted twice. Mr. Silvestro responded that in such instances, it is not possible to identify that ballot since there are no extraneous or identifying marks on ballots cast in this state.
  - Mr. Silvestro was not sure what else the State can do in terms of security short of post-election audits, which he recommends.
- The next meeting of the commission is scheduled for January 26, 2009 at 10:00 am in the HAVA conference room. Professor Ron Rivest will be the featured presenter on the 26<sup>th</sup>. Professor Rivest is the Andrew and Erna Viterbi Professor of Electrical Engineering and Computer Science in MIT's Department of Electrical Engineering and Computer Science. Professor Rivest has research interests in cryptography, computer and network security, electronic voting, and algorithms.
  - The committee members were asked to forward any questions that they may have for Professor Rivest no later than the end of the first week in January, 2009.

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- On a motion by Mr. Drisko, seconded by Mr. Stevens, the committee voted to adjourn at 3:37 pm.

Received by , Thomas F. Manning, Temporary Chairman