COUNTY OF ALLEGHENY

DEPARTMENT OF ADMINISTRATIVE SERVICES

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David A. Eckhardt, Ph.D.
330 Jefferson Drive
Pittsburgh, PA 15228

Dear Dr. Eckhardt:

This letter is in response to your correspondence dated June 12, 2006 regarding the May 16, 2006 Primary Election in Allegheny County. Please find below answers to your questions related to software, hardware, vote tabulation and future elections.

Software

1. **Which PEB firmware versions were used in the election?**

   All PEBs used in the May 16th Election were labeled as PEB version 1.07c. The presence of this label affixed to each PEB with the 1.07c version indicates that all PEBs were believed to be the proper version as certified for use in the Primary election by the Commonwealth of Pennsylvania. However, physical inspections performed on every PEB used in the May 16th election demonstrated that 5 of more than 2600 PEBs used in the election did not contain firmware version 1.07c.

   Also, it is important to keep in mind that firmware version 1.05 is completely compatible with version 1.07. The issue does not affect vote tabulation or the aggregation of votes.

2. **How many PEB's were running each version (1.05, 1.07c, 1.08)? Master PEB's and Supervisor PEB's.**

   Two physical inspections performed on every PEB immediately following the May 16th Election discovered that 5 PEBs, although properly labeled as hardware revision 1.07c, did not contain corresponding PEB firmware version 1.07. Those PEBs were used in the following districts:

   - Versailles District 2 - Master PEB
   - Pittsburgh Ward 14 District 40 - Master PEB
   - Pitcairn District 2 - Master PEB
   - Harrison Ward 3 District 2 - Master PEB
   - Mt. Lebanon Ward 5 District 4 - Supervisor PEB

In fact, as each of the above Districts utilized two PEBs; one containing PEB firmware version 1.07, while the other containing PEB firmware version 1.05. The remaining PEBs used throughout the County during the primary election all included hardware revision 1.07c and PEB firmware version 1.07. Though version 1.08 exists, it was not employed in Allegheny County.

3. **How was this determined-printouts or code comparison?**

   Each PEB was inserted into an iVotronic voter terminal which checks firmware and displays the firmware version for each PEB version every time a PEB is inserted into the terminal. This physical validation was performed twice on all PEB's used in the Primary election.

4. **How many different versions of iVotronic software were run?**

   One.

5. **How was this determined-printouts or code comparison?**

   Part of the acceptance testing performed on each iVotronic shipped into Allegheny County included an audit of the firmware version installed on each iVotronic. Each time an iVotronic is booted, the version of firmware installed in that unit is displayed on the unit's screen.

6. **What caused some machines to display a "Touch Screen To Vote" screen while others did not?**

   When ballots are activated on ADA enabled iVotronics, the "Touch Screen to Vote" graphic is displayed to allow a non-ADA voter to vote a visual ballot on the ADA enabled terminal. Simultaneously with the display of this graphic, audio files are being played through the headphones, if attached to the iVotronic. The audio files are instructing the voter with disabilities regarding the proper process to begin the audio ballot voting session.

Hardware

1. **Were the "non-ADA" iVotronic terminals, the ones without the audio-ballot buttons beneath the touch screen, examined and certified by the Secretary of the Commonwealth?**

   Yes.

Tabulation

1. **When the county-wide results were tabulated on the night of May 16th, how many iVotronic terminals were results missing from?**

   Canvassing performed by the Return Board identified 10 districts that required subsequent processing of election day DRE ballots.

2. **How can voters be confident that every vote was counted-exactly once, exactly as cast-if unknown software and uncertified hardware were feeding results into a tabulating system which doesn't detect missing or duplicate vote data?**

   First, to clarify, there was no unknown software used in the election. Again, other than the 5 PEBs (of more than 2600 used) identified above, all system components used in the Allegheny County May 16th Primary Election were the proper versions demonstrated to meet standards established by the U.S. Election Assistance Commission and certified by the Commonwealth of Pennsylvania. The PEB firmware is such that it has no impact upon the tabulation of any election results. Voters can absolutely be confident that the equipment accurately recorded and tabulated their votes.

The Future

1. **Will an air-tight chain-of-custody process be in place for November, so that every iVotronic will be running exactly the software certified by the Secretary of the Commonwealth?**

   An audit of all PEBs and iVotronic terminals planned for use in the November election will be completed prior to the distribution of equipment to the polling locations.

2. **Will the iVotronic zero-print process be changed by November to ensure that a complete and accurate zero print has been produced before the machine accepts votes?**

   Local election officials at the majority of polling locations successfully printed zero tapes prior to the opening of the polls. However, as a result of the new voting system and an accelerated implementation and training schedule, some poll workers experienced difficulty printing zero tapes at the beginning of the day.

   In the event of problems with printing zero tapes, the poll workers were trained and instructed to permit voters to use the optical scan ballots. On Primary Day, the County's Department of Elections provided assistance to poll workers to print the required zero tapes as soon as possible to enable voters at those locations to use the electronic machines.

   It was also suggested that zero tapes were printed after voters were permitted to vote on the iVotronic machines. It is important to note that the iVotronic system has a unique feature that prevents the opening of any terminals for use if that terminal

has votes cast on it. This prevents anyone from casting votes on the machine prior to the opening of the polls. The zero tape on the iVotronic system is a redundant verification process that shows the machine did not have any votes cast on it prior to opening. In other words, the machine will indicate whether there are prior votes without having to print a zero tape.

This issue will be addressed in the mandatory poll worker training sessions that will be held prior to the 2006 General Election. It is anticipated that additional training and familiarity will eliminate this problem.

3. **When will the County establish an assurance process including a citizen advisory council, local source code review, routine post-election object code audits?**

   The County does not feel it is necessary to establish a citizen advisory council, review local source code or audit post-election code audits. Numerous public hearings were held to gain citizen input prior to the purchase of the replacement voting system, and citizen input is always accepted.

4. **Has the County set a deadline for voters being able to personally verify that their vote has been recorded as cast? Why not?**

   It has been expressed numerous times by the Allegheny County Board of Elections that the implementation of a Voter Verified Paper Audit Trail (VVPAT) system shall occur immediately upon the finding by the Commonwealth that such system is legal. Allegheny County has already agreed to retrofit the voting machines with the VVPAT.

Please be assured that Allegheny County takes the issues you identified very seriously, and we will work to implement changes to ensure they will not occur in future elections. Allegheny County is committed to administering elections in a manner that maintains voter confidence and ensures that every vote is counted.

Sincerely,

signature redacted

Mark Wolosik, Division Manager
Department of Administrative Services
Elections Division

cc: Honorable John P. DeFazio, Chairman, Board of Elections
Honorable Dan Onorato, Board of Elections
Honorable Dave Fawcett, Board of Elections
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