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Memorandum

To: Members, State Board of Elections

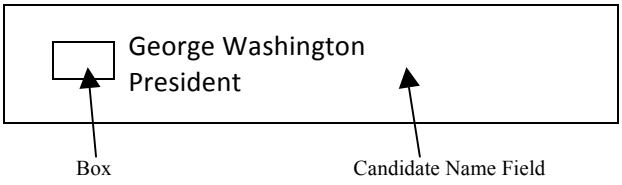
From: Ross Goldstein, Deputy Administrator
Paul Aumayr, Voting System Director

Date: June 24, 2011

Subject: Public Inquiry Regarding Screen Issues

Rebecca Wilson of *Save Our Votes* requested answers to the following questions:

1. **What is a "dead zone?"**
   A dead zone is an area on the screen that does not respond when touched by the user. For example, when making a selection for a particular candidate, the voter touches the box next to the candidate's name (see example below). If there is a dead zone, the box does not respond and no vote is recorded. However, if the voter touches anywhere else in the candidate field, a selection is indicated (an X and red shading appear in the box) and a vote is recorded.



2. **What causes a "dead zone?" Is it a hardware or software problem, or both?**
   A touchscreen monitor is made up of two separate devices: a glass input device that is positioned over a LCD monitor. The LCD monitor displays the ballot. The glass input device serves the same purpose as a computer mouse – namely it allows the voter to interact with the screen and make selections. The root cause of the problem is a malfunctioning glass input device. SBE has confirmed this by replacing the glass input device which fully eliminates the problem. Accordingly, the dead zone issue is solely hardware issue.

   While we know what the issue is and how to fix it, we do not know what causes a dead zone to occur.

- **Age of the Units** - Allegany County was one of the first LBEs to receive their Accuvote-TS units, in 2001. The other LBEs to receive voting units at this time were Dorchester County, Montgomery County and Prince George's County. SBE had these LBEs perform detailed testing on a sample of their units. This sample size was based on the Sampling for Quality Control (SQC) method – which is an ISO standard. Allegany County had a total of 46 units with this issue, which is 18% of their inventory; Dorchester County had 12 units, which is 9% of their inventory. However, the Dorchester County units had very small non-responsive areas, less than one square inch. Montgomery County had no issues, and Prince George's County testing only revealed an issue with five units.
- **Warehouse Conditions** - Our next assumption was that it had to do with the fact that the warehouse in Allegany County is not heated or air-conditioned. To determine if that was the cause, we asked Washington County to conduct testing, since they have the same climate and warehouse conditions. Washington County, performed testing on 100% of their voting units, 480 units in total, and had no issues.
- **Glass Input Device** – We also considered the possibility that the voting units with dead zones all had glass input devices from the same production run, indicating a manufacturing error. However, our review of the serial numbers on the glass input devices indicated that they were not from the same production run.
- **Touchscreen Manufacturing** –Finally, ES&S is reviewing two of the Allegany voting units that had dead zones to determine whether the cause can be traced to an issue with the production of those units. ES&S has sent the units to their facility for review.

3. **What happens when a dead zone is detected? Is the machine repairable?**
   As discussed above the touchscreen units can be repaired and to date, all 65 units that displayed this issue have been repaired by replacing the glass input device.

   a. **If so, exactly how is it repaired, and by which vendor?**
      SBE staff has so far made the majority of repairs to the touchscreen units. However, the regional managers (who work for the Cirdan Group, the voting system support services vendor) have been trained to make this repair in the field. SBE has ordered a small quantity of the glass input devices and will be able to make needed repairs quickly. The price per glass input device is approximately $100.

   b. **Where do the parts come from?**
      The glass input device is manufactured by ELO, a division of Tyco. They make several standard sized glass input devices (the TS unit uses the 15" version). There are several computer supply companies that sell the ELO glass input device.

   c. **Is this covered by warranty?**
      No.

   d. **If not repairable, are the units being replaced?**
      There is no reason to replace the units.

4. **Please provide copies of the SBE's memo to LBEs and of all correspondence with vendors, other states, and the EAC regarding this problem.**
   It is our understanding that SBE has already provided documents responsive to this question. In addition:
   - SBE has instructed certain counties to conduct testing.
   - There has not been discussion with vendors about the dead zone issue. For example, Cirdan has been instrumental in helping with the enhanced testing and tracking of problems. As mentioned above ES&S has been informed of the issue and is reviewing two of the TS units.
   - SBE has also discussed this issue with the State of Georgia who uses the same system. Georgia reported that they had not seen this issue.
   - Finally, SBE has not had any contact or discussion with the EAC about this issue.