



DEPARTMENT OF INFORMATION RESOURCES

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September 8, 2005

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Ms. Ann McGeehan
Deputy Assistant
Office of the Secretary of State
1019 Brazos Street
Austin, TX 78701

RE: Re-examination of PATRIOT voting system by Unilect

Dear Ms. McGeehan:

I attended a scheduled examination on August 18, 2005, at 8:30 AM, for the purpose of re-examining the PATRIOT voting system from Unilect to address issues left unresolved from the May 25, 2005 examination. This report summarizes my findings.

Hardware/Software Version	Date Previously Certified
Patriot Precinct Control Unit v2.56	1/13/1999
Patriot CVU v2.54	1/13/1999
Patriot Curbside Model v2.54	1/13/1999
Patriot Freedom Unit v1.0	1/13/1999
Intellect Election Management System v2.61	1/13/1999
Absentee Card Reader Model 1000	1/13/1999
Absentee Card Reader Model 20	1/13/1999
InfoPacker v1.0	1/13/1999
InfoPack 1.0	1/13/1999

Collectively all these components are referred to as System 5. The only changes occurred in the Election Management System software.

New Operating System

The Election Management System now runs under Windows 2000. Changes to the system were a result of migrating to the new operating system.

Log Printer Issues

The application now reverts to the operating system after a printer fault such as going offline. The system must then be restarted before processing can continue. The log printer records the printer fault after the user logs on again. The print routine does not always force a line print for each error message, so it may be possible to shut down the printer and lose messages still in the print buffer. However, the system will note that the printer went offline and the application was exited and restarted. All log messages are also be included in the internal log.

The audit log is now encrypted to prevent tampering. The log file cannot be printed outside of the application, and cannot be printed within the application if it has been tampered with.

The error *Invalid ballot style card* was not logged, and neither was the attempt to read a ballot stack twice. Neither action results in votes being counted incorrectly, but it is suggested that both events be logged.

Printer issues

Unilect provided a printer that could print the Absentee Ballot Guides. These were used to vote test ballots and the card readers. The discussion of ballots uncovered a small issue with ballot styles. If styles are identical among two or more precincts, it is possible for ballots in one precinct to be tallied under another precinct. This would not result in under- or over-counting votes, but it would assign votes from one precinct to another. An error such as this would likely be discovered and corrected during the canvassing. The vendor has an acceptable workaround, and in practice it appears not to have been a problem.

Pre-election warehouse activities

The vendor demonstrated pre-election activities that would be accomplished in the warehouse. This resolved several usability issues that came up during the previous examination. The vendor also presented their poll worker guide to illustrate how usability is addressed through training and documentation. In addition they noted that the modem setup is done only once by trained personnel, not by poll workers, making that issue virtually irrelevant.

Performance issues in other states

The vendor addressed questions from the examiners about problems experienced in Pennsylvania and North Carolina during the 2004 General Election. Their answers illustrated a key component of all voting environments: responsibility of local officials to educate all the workers in the voting process. No voting process is error-proof, but when the voting medium is paper, it is intuitive to blame the humans for errors in the system. When the medium is electronic, it seems to be easier to blame the devices and vendors.

Unilect appears to have done due diligence in helping the jurisdictions prevent problems that occurred. They have since rectified a program error that allowed votes to be cast on machines that should not have accepted any more votes. However, simple due diligence at the local level would have prevented the problems in both states.

Results of the examination

The voting test did not uncover any anomalies in counting votes and the user interface. The vendor is urged to make the event log easier to monitor during the election, and easier to review by the public after the election. Transparency in auditing elections will likely be the best antidote to the public's concerns about the reliability of electronic voting devices.

DIR finds no objections to certifying the system itself as presented at this examination.

Respectfully,

A handwritten signature in black ink that reads "Nick Osborn". The signature is written in a cursive style with a long horizontal line extending to the right.

Nick Osborn
Systems Analyst