

COMMONWEALTH OF PENNSYLVANIA

DEPARTMENT OF STATE

**REPORT CONCERNING THE RESULTS OF THE EXAMINATION OF UPDATES TO
ACCUVOTE TSX VOTING SYSTEM SECURE SOCKET LAYER CERTIFICATE AND
GEMS ROOT CERTIFICATE**



Issued By:

A handwritten signature in cursive script, reading "Carol Aichele".

Carol Aichele
Secretary of the Commonwealth
August 28, 2013

I. INTRODUCTION

On December 22, 2005, January 17, 2006, and September 11, 2012, respectively, the Secretary of the Commonwealth certified the AccuVote TSX, version 4.6.4, and Guardian Election Management Software (“GEMS”), version 1.18.25 (collectively referred to as the “AccuVote TSX Voting System”), for use in elections in the Commonwealth and issued reports, in accordance with Section 1105-A(b) of the Pennsylvania Election Code, 25 P.S. § 3031.5(b).

By letter dated February 7, 2013, Election Systems & Software (“ES&S”), the vendor of the AccuVote TSX Voting System, notified the Secretary through the Department of State’s Bureau of Commissions, Elections and Legislation (“Department”) that the Secure Socket Layer (“SSL”) certificate for the AccuVote TSX, version 4.6.4, was set to expire on July 7, 2013. ES&S also informed the Department that the Root certificate for GEMS, version 1.18.25, will expire on January 28, 2014.

The SSL certificate and the Root certificate allow for the secure transmission of data between the AccuVote TSX voting units and the GEMS server. In order for the AccuVote TSX Voting System to continue to operate as designed, it is necessary for the Pennsylvania counties using the AccuVote TSX Voting System to install SSL certificate and Root certificate updates. As such, ES&S requested approval from the Department to proceed with providing its customers with the certificate updates.

The Secretary appointed Jack Cobb (“Examiner”), Laboratory Director of Pro V&V, Inc., as a professional consultant to conduct an examination of the certificate updates to the AccuVote TSX Voting System. The Examiner performed the examination on June 24, 2013¹, in Hearing Room 5 of the Commonwealth Keystone Building, 400 North Street, Harrisburg, Pennsylvania. Ian Harlow, Deputy Commissioner of the Department’s Bureau of Commissions, Elections and Legislation, and Caroline Bailey, Assistant Counsel for the Department, represented the Secretary of the Commonwealth. Benjamin Swartz, Pennsylvania State Certification Manager, represented ES&S. The examination was open to the public and was video recorded by staff

¹ The examination was originally scheduled for April 18, 2013. The examination, however, had to be postponed. By letter dated April 12, 2013, Wyle Laboratories, a Voting System Test Laboratory (“VSTL”), notified the Department that it performed a partial source code review of the AccuVote TSX Voting System and that ES&S failed to correct certain violations of the Election Assistance Commission (“EAC”) 2005 Voluntary Voting System Guidelines (“VVSG”) prior to the compliance build. The violations were only comment related and did not involve any executable code; nonetheless, the Department determined that ES&S must correct the violations and resubmit the voting system to the VSTL. Wyle Laboratories notified Deputy Commissioner Ian Harlow by letter dated June 18, 2013, that ES&S corrected all previously reported violations of the EAC 2005 VVSG.

members from the Department's Bureau of Commissions, Elections and Legislation. No members of the public attended the examination.²

II. THE ACCUVOTE TSX VOTING SYSTEM

The following firmware/software, hardware and peripheral components of the AccuVote TSX Voting System were presented for examination:

- Firmware/Software
 - GEMS Server, version 1.18.25.109;
 - Ballot Station, version 4.6.4.106;
 - Bridgeport, version 1.6.0.0;
 - EZRoster, version 2.7.11;
 - CardWriter, versions 1.1.4.0, 1.1.5, and 1.1.6.
- Hardware
 - AccuVote TSX Direct Recording Electronic ("DRE");
 - ExpressPoll 5000 Electronic Poll Book; and
 - GEMS Server, version 1.18.25.109.
- Peripherals
 - Personal Computer Memory Card International Association ("PCMCIA") Transport Media;
 - Desktop Printer, model Seiko MPU-L465-E;
 - BridgePoint PC, model Dell E6400 Latitude;
 - Signature Pad, model T-LBK750SE-BHSB-R, T-L460-HSB-R;
 - Scanner, model Motorola D58708;
 - USB Hub, model Belkin;
 - 3Com OfficeConnect switch; and
 - SanDisk CF Reader, model ImageMate.

III. EXAMINATION PROCEDURES AND RESULTS

A. Examination Process and Procedures

The Examiner developed a test protocol for the examination.³ The purpose of the examination was to ascertain whether the AccuVote TSX Voting System with the SSL certificate and Root certificate updates can be safely used by voters at elections in the Commonwealth and

² The time and place of the examination was published on the website for the Department of State prior to the start of the examination on June 24, 2013.

³ The test protocol was published on the website of the Department of State prior to the start of the examination on June 24, 2013.

meets the requirements of the Election Code.⁴ In order to achieve this objective, the Examiner determined that review of certain documentation and the performance of a single test case was sufficient.

The Examiner reviewed the submitted test documentation consisting of an ITA⁵ report. During the review, the Examiner also analyzed the previous test results from the reexamination of the AccuVote TSX Voting System on March 1 and March 2, 2012, for specific tests that satisfied the Pennsylvania Election Code, and verified that the certificate updates to the previously certified AccuVote TSX Voting System met those requirements.

In addition to the review, the Examiner drafted a SSL certificate update test, which consisted of a test case designed to ensure that performing the system maintenance of updating the SSL certificate and Root certificate does not adversely affect the functions or operation of the AccuVote TSX Voting System.

B. Examination Specifications

In accordance with the test protocols, the examination occurred in an environmentally controlled room. The room was configured such that the Examiner, the representatives of the Secretary of the Commonwealth, and ES&S each had their own independent work areas.

Wyle Laboratories, a trusted source, provided the Department's Bureau of Commissions, Elections and Legislation with a trusted build of the AccuVote TSX Voting System prior to the date of the examination. On the day of the examination, ES&S provided one AccuVote TSX precinct tabulation device, the EMS with the test election definitions, and the components necessary to load the trusted build onto the precinct tabulation devices. The Examiner provided ES&S with the firmware/software that had been provided by the trusted source. ES&S then loaded the firmware/software onto the required media and installed the firmware/software on the precinct tabulation device. Once the firmware/software was loaded onto the precinct tabulation device, ES&S was not allowed access to the internal components of the device without consent of the Examiner or a representative of the Secretary of the Commonwealth.

C. Examination Results

On June 27, 2013, the Examiner issued the test report for the certificate updates to the AccuVote TSX Voting System.

⁴ The test protocol was published on the website of the Department of State prior to the start of the examination on June 24, 2013.

⁵ Section 1105-A(a) of the Election Code requires that an electronic voting system be examined and approved "by a federally recognized independent testing authority," or ITA. 25 P.S. § 3031.5(a).

The review performed by the Examiner demonstrates that the ITA or, as such authorities are now called, the VSTL, report and certification submitted by ES&S satisfy the requirements of Section 1105-A(a) of the Election Code, 25 P.S. § 3031.5(a); the AccuVote TSX Voting System with the SSL certificate and Root certificate updates has been examined and approved by a VSTL as meeting the applicable performance and test standards established by the federal government. Specifically, the system maintenance to update the SSL certificate and Root certificate was examined by Wyle Laboratories and documented in a letter dated June 18, 2013, to Deputy Commissioner Ian Harlow.

In terms of the examination of the SSL and the Root certificates, it was demonstrated that performing the system maintenance to update the SSL certificate and Root certificate for the AccuVote TSX Voting System does not impair its accuracy, efficiency or capacity or otherwise adversely affect the functions or operation of the AccuVote TSX Voting System.

D. Observations

The Examiner did not observe any issues or anomalies during the execution of the SSL certificate and Root certificate test case. As a result of this test and his review of the documentation, the Examiner concluded that the AccuVote TSX Voting System complies with the pertinent requirements of the Election Code.

IV. CONDITIONS FOR CERTIFICATION

Given the results of the June 24, 2013, examination and the findings of the Examiner as set forth in his June 27, 2013, report, the Secretary of the Commonwealth certifies the AccuVote TSX Voting System with the SSL certificate and Root certificate updates in accordance with the conditions detailed in the reports dated December 22, 2005, January 17, 2006, and September 11, 2012.

V. RECOMMENDATIONS

The Secretary of the Commonwealth reaffirms the recommendations in the Secretary's certification reports dated December 22, 2005, January 17, 2006, and September 11, 2012.

VI. CONCLUSION

As a result of the reexamination conducted on June 24, 2013, and after consultation with the Department's staff and the Examiner, the Secretary of the Commonwealth concludes that the AccuVote TSX 4.6.4.106 Voting System with GEMS 1.18.25.109 can be safely used by voters at elections as provided in the Pennsylvania Election Code and meets all of the requirements set forth in the Code, **provided it is implemented with the conditions listed in Section IV of this report, as well as all conditions listed in the December 22, 2005, January 17, 2006, and September 11, 2012, reports.** Accordingly, the Secretary reaffirms certification of the

AccuVote TSX Voting System and continues to approve the AccuVote TSX Voting System for use in this Commonwealth.

In addition, pursuant to the Directive on Electronic Voting Systems issued by the Secretary of the Commonwealth on August 8, 2006, the Directive Concerning the Use, Implementation and Operation of Electronic Voting Systems by the County Boards of Elections issued on April 28, 2009, and Section 1105-A(d) of the Pennsylvania Election Code, 25 P.S. § 3031.5(d), this certification and approval is valid only for the voting system discussed in this Report. If the vendor or a County Board of Elections makes **any** changes to the AccuVote TSX Voting System subsequent to the date of its examination, it must **immediately** notify the Pennsylvania Department of State and the relevant federal testing authority or laboratory. Failure to do so may result in the decertification of the AccuVote TSX Voting System in the Commonwealth of Pennsylvania.

All jurisdictions that have implemented the AccuVote TSX Voting System pursuant to the certifications of December 22, 2005, January 17, 2006, and September 11, 2012, must implement the AccuVote TSX Voting System under this certification and must comply with the directives found in this Report, previous reports for the AccuVote TSX Voting System, and any directives issued by the Secretary of the Commonwealth regarding the use of this System, including the Directive Concerning the Installation of Files Regarding the Diebold AccuVote TSX Electronic Voting System issued by the Secretary of the Commonwealth on May 2, 2006, in accordance with Section 1105-A(a)-(b) of the Election Code, 25 P.S. § 3031.5(a)-(b).

The AccuVote TSX Voting System will accommodate no more than 350 voters per unit.