

South Dakota State Board of Elections
ES&S Voting System (EVS) 6.1.0.0 State Certification

Pursuant to South Dakota Codified Law (SDCL) § 12-17B-2, please accept this report as official application for certification of Election Systems and Software (ES&S) EVS 6.1.0.0. The testing of all equipment was conducted October 21-23, 2019 in Pierre, SD and on October 24, 2019 in Sioux Falls.

The following individuals were present:

ES&S

State Certification Manager: Mark Manganaro
South Dakota Account Manager: Nate Clark

South Dakota Secretary of State's office

Secretary of State: Steve Barnett
Deputy Secretary of State: Jason Lutz
Director, Division of Elections: Kea Warne
State Election Coordinator: Christine Lehrkamp
HAVA Coordinator: Rachel Soulek
Elections & Federal Project Coordinator: Rory Mennenger
Election Assistant: Bailey Tibbs

Other Participants

Minnehaha County Auditor: Bob Litz
Keloland Report: Bob Mercer

System Testing Overview

The components and versions of EVS 6.1.0.0 are as follows:

Software

ElectionWare, v. 6.0.0.0

- ElectionWare integrates the election administration functionality into a unified application. Its intended use is to define an election and create the resultant media files used by the ExpressVote, DS200 tabulator, DS450 tabulator, the DS850 Central Ballot Scanner, and Election Management System (EMS) that generation of paper and electronic reports for election workers, candidates, and the media. Jurisdictions can use a separate Election Management System (EMS) installation to display updated election totals on a monitor as ballot data is tabulated and send the results' reports directly to the State Election Night Results System.

Event Log Service, v. 2.0.0.0

- ES&S Event Log Service is a Windows Service that runs in the background of any active ES&S Election Management software application to monitor the proper functioning of the Windows Event Viewer. The ES&S Event Log Service closes any active ES&S software application if the system detects the improper deactivation of the Windows Event Viewer.

Removable Media Service, v. 2.0.0.0

- Removable Media Service (RMS) is an application that runs in the background of the EMS client workstation and supports the installation and removal of election and results media.

Hardware

DS200 Central Digital Tabulator, v. 2.30.0.0

- Used in Aurora, Bon Homme, Haakon, Harding, Jerauld, Kingsbury, Sanborn, Perkins, Mellette, Corson, Campbell, Walworth & Ziebach counties during the 2018 Primary and General Elections.

- DS200 digital tabulator is a paper ballot tabulator that is designed for use as a polling place tabulator or a central count tabulator, South Dakota counties will use as a central count tabulator. Both sides of the ballot are scanned at the same time using a high-resolution image-scanning device.
- Beneficial enhancement is an optional, self-locking Compact Flash card containing the firmware and operating system from unauthorized use.

DS450 Central Count Tabulator, v. 3.4.0.0

- Used in Clay, Lyman, Turner & Tripp counties during the 2018 Primary and General Elections.
- The DS450 is a mid-range tabulator that simultaneously scans the front and back of a paper ballot and/or vote summary card. TruGrip™ technology insures that multiple sets of rollers are controlling the ballot in the transport at all times. This provides for reliable handling of ballots; even folded ballots. It can also read ballots in any of four orientations. It sorts tabulated ballots into discrete output bins without interrupting scanning.
- The beneficial enhancement is the optional, read-only Compact Flash card containing the firmware and operating system can also be utilized to protect the firmware and operating system from unauthorized use.

DS850 Central Count Tabulator, v. 3.4.0.0

- Used in Beadle, Brookings, Brown, Codington, Davison, Lincoln, Meade, Minnehaha and Pennington counties during the 2018 Primary and General Elections.
- The DS850 is a high-speed, digital scan central ballot tabulator that uses cameras and imaging algorithms to capture voter selections on the front and back of a ballot, evaluate results and then sort ballots into discrete bins without interrupting scanning. A dedicated audit printer generates a continuous event log. Machine level reports are produced from a second, laser printer. The scanner saves voter selections to an internal hard disk and exports results to a USB Memory stick for processing with Electionware Reporting Software.
- Beneficial enhancement is the optional, read-only Compact Flash card containing the firmware and operating system can also be utilized to protect the firmware and operating system from unauthorized use.

ExpressVote Universal Voting System, v. 4.0.0.0

- The ExpressVote is a universal voting device designed for all voters, with a printed voter-verifiable paper record. This system combines paper-based voting with touch screen technology. The ExpressVote includes a mandatory vote summary screen that requires voters to confirm or revise selections prior to printing the summary of ballot selections using the internal thermal printer.
- The ExpressVote enables voters who are visually or physically impaired and voters more comfortable reading or hearing instructions to privately make their selections. The ExpressVote supports navigation through touchscreen, physical keypad or ADA support peripheral such as a sip and puff device.
- Beneficial enhancement can now display 1-4 columns worth of contest/candidates and further has the ability to display text formatted with different colors and attributes (ie: font size and color). Lastly, updated the low battery alerts that will suppress entering a voting session when the battery is low to avoid starting a vote session and not being able to finish it without having enough battery power to do so.

Testing Overview

During the test, the 500 ballots were split between five precincts including a split precinct in Precinct One. The SOS staff tested primary election and general election ballots. Tabulated ballots that contained 10 choices and contained choices on both the front and back, except for the ExpressVote ballots which prints all selections on one side. The ballots for testing were at least 90% fully voted with the remainder containing overvoted and undervoted ballots. An additional 15 ballots were also processed as absentee ballots in which each ballot was folded in the same manner as absentee ballots.

250 optical scan ballots were hand marked by staff which were then tabulated on a DS200, DS450 and DS850.

Description of ExpressVote Universal Voting Device Testing

Pursuant to ARSD § 5:02:09:02.03, 250 ExpressVote pre-printed ballot cards were marked using three ExpressVote machines. Each card was accurately marked and displayed each race that was marked. Each card was then accurately tabulated pursuant to ARSD § 5:02:09:02.01 on a DS200, DS450 and DS850. The ExpressVote machine was unplugged and the battery back-up system was successfully tested to allow voting to continue uninterrupted for two hours without external power. The system did not allow a ballot to be inserted when the battery was low which is one of the enhancements and that worked.

Description of Automatic Tabulating System Testing

Pursuant to ARSD § 5:02:09:02.01, the 250 ExpressVote cards that were marked using the ExpressVote were then tabulated by a DS200, DS450 and a DS850.

During the testing in Pierre, the DS850 was having a hardware issue that the ES&S Representative couldn't address at that moment. The ES&S Representative Mark Manganaro believed it was an issue with the fly wheel and/or the motor control for the ballot trays. Deputy Secretary of State Jason Lutz, Director, Division of Elections Kea Warne, Christine Lehrkamp, State Election Supervisor, Bob Litz, Minnehaha County Auditor and Mr. Manganaro agreed to move the testing to Sioux Falls and complete the testing on one of Auditor Litz's DS850 tabulating machine.

Auditor Litz's DS850 was able to successfully run the ballots through and detect the blank ballots and tabulated the optical scan ballots and the ExpressVote cards at a rate well over the required 15 ballots a minute.

During the testing, the DS450 successfully detected the blank ballots and tabulated the optical scan ballots and the ExpressVote cards at a rate well over the required 15 ballots a minute. The DS200 correctly sorted the blank ballots by sorting them to a different side of the ballot box and accurately processed the ballots at a rate of 10 ballots per minute, the required time frame.

Conclusion

All testing of the equipment was successful and met all requirements pursuant to codified law and administrative rule and EVS 6.1.0.0 is recommended for distribution in South Dakota. Attached is the Secretary of State's certification report and the Election Assistance Commission Grant of Certification and Certificate of Conformance.