

**South Dakota State Board of Elections**  
**ES&S Voting System (EVS) 6.1.1.0 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 6.1.1.0. The testing of all equipment was conducted July 26-28, 2021 in Pierre, SD.

**The following individuals were present:**

**ES&S**

State Certification Manager: Mark Manganaro

**South Dakota Secretary of State's office**

Secretary of State: Steve Barnett

Deputy Secretary of State: Jason Lutz

Director, Division of Elections: Kea Warne

Director of Business Services: Kyle Holt

State Election Coordinator: Rachel Soulek

Elections Program Administrator: Suzanne Wetz

Accountant: Kayla Dowling

Lobbyist Administrator/Administrative Assistant: Alexis Woitte

**Other Participants**

State Board of Elections Member: Linda Lea Viken

**System Testing Overview**

The components and versions of EVS 6.1.1.0 are as follows:

**Software**

ElectionWare, v. 6.0.1.0

- 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, Buffalo, Butte, Campbell, Clark, Corson, Day, Dewey, Douglas, Edmunds, Faulk, Gregory, Haakon, Hand, Hanson, Harding, Hyde, Jerauld, Kingsbury, McPherson, Mellette, Perkins, Sanborn, Stanley, Sully, Walworth & Ziebach counties during the 2020 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.
- This machine must have the ballots fed in one at a time – the number of 14” ballots tabulated per minute is 11.

#### DS450 Central Count Tabulator, v. 3.4.0.0

- Used in Clay, Lyman, Marshall, Miner, Roberts, Spink, Turner, Tripp/Todd, Union and Yankton counties during the 2020 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.
- The number of 14” ballots tabulated per minute is 72.

#### DS850 Central Count Tabulator, v. 3.4.0.0

- Used in Beadle, Brookings, Brown, Codington, Davison, Lincoln, Meade, Minnehaha and Pennington counties during the 2020 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.
- The number of 14” ballots tabulated per minute is 300.

#### 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.

### Key Benefits Overview

Below is a brief overview of some of the Key Benefits of the EVS 6.1.1.0 voting system in comparison to the previous state certified EVS 6.1.0.0 release.

- Revised write-in snippet handling for the ExpressVote vote summary card image
- Added Postgres logging for database optimization
- Applied security updates to Microsoft Windows 10 & Server 2016
- Increased memory capacity on the ElectionWare Computer (increase in RAM from 32 to 64 bit)
- Provided a method for modifying the Microsoft Windows password policy to not expire on the ElectionWare computer (optional).

## **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 contained 10 selections and contained selections 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 61 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 blank ExpressVote 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 DS850, DS450 and DS200. 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. Insignificant ballot jams were reported due to placing a hand in front of the printer, but the ballot was able to be printed with the operator functionality and without opening the machine.

### **Description of Automatic Tabulating System Testing**

Pursuant to ARSD § 5:02:09:02.01, the 250 optical scan ballots that were marked using the AutoMARKs were then tabulated by a DS850, DS450 and a DS200. The 250 ExpressVote cards that were marked using the ExpressVote were then tabulated by a DS850, DS450 and a DS200. During the testing, the DS850 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. 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.

Our office requested ES&S to program ballots with a signature box, to see if that would be able to read an official ballot stamp if one was stamped in that box. They printed the signature box on the ballots and programmed the DS200, DS450 and DS850 to scan the box for the official ballot stamp. All three tabulators are able to read the ballot stamp on optical scan ballots. The signature box for the ballot stamp cannot be programmed on ExpressVote ballots.

## **Conclusion**

All testing of the equipment was successful and met all requirements pursuant to codified law and administrative rule and EVS 6.1.1.0 is recommended for distribution in South Dakota. Enclosed in the report are the Election Assistance Commission Grant of Certification and Certificate of Conformance. Attached is the EVS 6.1.1.0 System Overview.