

**South Dakota State Board of Elections**  
**ES&S Voting System (EVS) 5.2.0.0 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 5.2.00. The testing of all equipment was conducted on May 4<sup>th</sup> and 5<sup>th</sup> in Pierre, SD.

**The following individuals were present:**

**ES&S**

State Certification Director: Steve Pearson  
State Certification Manager: Mark Manganaro

**Secretary of State's office**

Secretary of State: Shantel Krebs  
Deputy Secretary of State – Elections Services: Kea Warne  
Deputy Secretary of State – Business Services/Legal Counsel: Tom Deadrick  
HAVA Coordinator: Brandon Johnson  
State Election Coordinator: Christine Lehrkamp  
Election Coordinator: Kristin Kellar

**System Testing Overview**

The components and versions of EVS 5.2.0.0 are as follows:

**Software**

ElectionWare, v. 4.6.0.0

- 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, AutoMARK Voter Assist Terminal (VAT), the DS850 Central Ballot Scanner, and Election Reporting Manager (ERM). An integrated ballot viewer allows election officials to view the scanned ballot and captured ballot data side-by-side and produce ballot reports.

Election Reporting Manager (ERM), v. 8.11.0.0

- Election Reporting Manager (ERM) generates paper and electronic reports for election workers, candidates, and the media. Jurisdictions can use a separate ERM installation to display updated election totals on a monitor as ballot data is tabulated, and send the results' reports directly to the media outlets.

Event Log Service, v. 1.5.5.0

- 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.

#### ExpressPass, v. 1.1.0.0 (*not tested*)

- The ExpressPass system offers an interactive, voter-specific sample ballot that can be viewed online at anytime. Voters also have the ability to mark their selections, which can then be printed or saved to their mobile device. If the voter saves their selections to a mobile device, a Quick Response (QR) code is generated which can be scanned using an ExpressVote machine and instantly pull up their selections in the voting booth and let the ExpressVote mark those selections on their ballot or the voter can make changes to their selections on the ExpressVote.

#### ExpressVote Previewer, v. 1.8.6.0

- The ExpressVote Previewer is an application within the Election Management System (EMS) program that allows the election official to preview audio text and screen layout prior to burning Election Day media for the ExpressVote.

#### Removable Media Service, v. 1.4.5.0

- 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 Precinct Tabulator, v. 2.12.0.0

- Currently there are no DS200s being used in South Dakota.
- DS200 digital scanner is a paper ballot tabulator designed for use as a polling place scanner. After the voter makes their selections on their paper ballot, their ballot is inserted into the unit for immediate tabulation. Both sides of the ballot are scanned at the same time using a high-resolution image-scanning device that produces ballot images. The DS200 may also be used as a central count scanner and tabulator.

#### DS850 Central Count Scanner, v. 2.10.0.0

- Currently there are DS850s being used in Brookings, Davison, Meade, Minnehaha and Pennington counties.
- The DS850 is a high-speed, digital scan central ballot counter 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 and ballot images to an internal hard disk and exports results to a USB Memory stick for processing with Election Reporting Manager.

#### AutoMARK Voter Assist Terminal (VAT), v. 1.8.6.0

- Currently there is an AutoMARK in each polling place for Primary and General Elections in South Dakota.
- AutoMARK VAT enables voters who are visually or physically impaired and voters more comfortable reading or hearing instructions and choices in an alternative language to privately mark optical scan ballots. The AutoMARK supports navigation through touchscreen, physical keypad or ADA support peripheral such as a sip and puff device or two position switch.

#### ExpressVote Universal Voting Device, v. 1.4.0.0

- The ExpressVote may replace the AutoMARKs in South Dakota, but counties who use the M100 or M650 tabulators will have to upgrade to a DS200 or DS850 tabulator to be able to tabulate the ballots from the ExpressVote.
- The ExpressVote is a universal vote capture device designed for all voters, with independent voter-verifiable paper record that is digitally scanned for tabulation. 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 can serve all voters, including those with special needs, allowing voters to cast ballots autonomously.

#### **Testing Overview**

During the test, 250 optical scan ballots were marked using the AutoMARK (version 1.8.6.0) and 250 ExpressVote cards were marked using one ExpressVote (version 1.4.0.0), which were then tabulated on a DS850 and DS200. The 500 ballots were split between five precincts including a split precinct in Precinct One. Each ballot contained 10 choices and contained choices on both the front and back, except for the ExpressVote 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 the each ballot was folded in the same manner as absentee ballots.

#### **Description of AutoMARK Testing**

Pursuant to ARSD § 5:02:09:02.03, 250 blank optical scan test ballots were marked on three different AutoMARKs without a single ballot jam. On each AutoMARK, the paper ballot was accurately marked for each position voted every time and pursuant to ARSD § 5:02:09:02.01, each ballot tabulated correctly. Each of the three AutoMARKs were unplugged and the battery back-up system was successfully tested to allow voting to continue uninterrupted for two hours without external power.

#### **Description of ExpressVote Universal Voting Device Testing**

Pursuant to ARSD § 5:02:09:02.03, 250 blank ExpressVote cards were marked using one ExpressVote machine without a single ballot jam. 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 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. The ExpressPass functionality was not tested during this time.

#### **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 (version 2.10.0.0) and a DS200 (version 2.12.0.0). The 250 ExpressVote cards that were marked using the ExpressVote were then tabulated by a DS850 (version 2.10.0.0) and a DS200 (version 2.12.0.0). During the testing, the DS850 successfully tabulated the optical scan ballots and the ExpressVote cards at a rate of 300 to 400 a minute, well

over the required 15 ballots a minute. Each time the ballot or card was blank, the DS850 correctly sorted the blank ballot(s) into a different tray. 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 13 ballots per minute.

**Conclusion**

All testing of the equipment was successful and met all requirements pursuant to codified law and administrative rule and EVS 5.2.0.0 is recommended for distribution in South Dakota with the ExpressPass exception. Enclosed in the report are the Election Assistance Commission Grant of Certification and Certificate of Conformance. Attached is the EVS 5.2.0.0 System Overview.



**U. S. ELECTION ASSISTANCE COMMISSION**  
**VOTING SYSTEM TESTING AND CERTIFICATION PROGRAM**  
1335 East West Highway, Suite 4300  
Silver Spring, MD 20910

July 2, 2014

Steve Pearson  
Election Systems & Software  
11208 John Galt Blvd.  
Omaha, NE 68137

**Sent via e-mail**

**Re: Agency Decision – Grant of Certification**

Dear Steve Pearson,

As required under §5.9 of the EAC's Voting System Testing and Certification Program Manual, ES&S and NTS Huntsville have provided the necessary documentation for the EVS 5.2.0.0 voting system verifying that 1) the trusted build has been performed, 2) software has been deposited in an approved repository, 3) system identification tools are available to election officials, and 4) signed a letter stating, under penalty of law, that you have:

1. Performed a trusted build consistent with the requirements of §5.6 of the EAC's Certification Manual;
2. Deposited software consistent with §5.7 of the EAC's Certification Manual;
3. Created and made available system identification tools consistent with §5.8 of the EAC's Certification Manual (a copy and description of the system identification tool developed must be provided with the letter); and
4. Upon a final decision to grant certification, the manufacturer accepts the certification and all conditions placed on the certification.

Based on the review of the documentation above and the fact ES&S EVS 5.2.0.0 successfully completed conformance testing to the 2005 Voluntary Voting System Guidelines (2005 VVSG), the Voting System Testing & Certification Program Director has recommended EAC certification of this system.

I have reviewed all of the documentation and concur with the Program Director's recommendation. As such, I hereby grant EAC Certification to EVS 5.2.0.0 to the 2005 Voluntary Voting System Guidelines.

The EAC certification number issued for this system is: **ESSEVS5200**. In addition, a Certificate of Conformance shall be provided to ES&S as evidence of the EAC certification of the EVS 5.2.0.0. The Certificate of Conformance shall be provided to

ES&S no later than five business day from the date of this letter, and it shall be posted on the EAC's Web site.

As stated in §5.11 of the EAC's Certification Manual, the EAC certification and certificate apply only to the specific voting system configuration(s) identified, submitted, and evaluated under the Certification Program. Any modification to the system not authorized by the EAC shall void the certificate.

If you have any questions or need further information, please do not hesitate to contact Brian Hancock or Jessica Myers at your earliest convenience. I thank you in advance for your time and attention to this matter and congratulate on this achievement.

Sincerely,

A handwritten signature in blue ink, appearing to read "Alice P. Miller".

Alice P. Miller  
Chief Operating Officer and Acting Executive Director  
Decision Authority

Cc: Brian Hancock, U.S. Election Assistance Commission  
Frank Padilla, NTS Huntsville



United States Election Assistance Commission

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Certificate of Conformance

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**ES&S EVS 5.2.0.0**



The voting system identified on this certificate has been evaluated at an accredited voting system testing laboratory for conformance to the 2005 *Voluntary Voting System Guidelines (2005 VVSG)*. Components evaluated for this certification are detailed in the attached Scope of Certification document. This certificate applies only to the specific version and release of the product in its evaluated configuration. The evaluation has been verified by the EAC in accordance with the provisions of the EAC *Voting System Testing and Certification Program Manual* and the conclusions of the testing laboratory in the test report are consistent with the evidence adduced. This certificate is not an endorsement of the product by any agency of the U.S. Government and no warranty of the product is either expressed or implied.

Product Name: EVS

Model or Version: 5.2.0.0

Name of VSTL: NTS Huntsville

EAC Certification Number: ESSEVS5200

Date Issued: 7/2/2014

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*Chief Operating Officer & Acting Executive Director  
U.S. Election Assistance Commission*

**Scope of Certification Attached**