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STATE OF MINNESOTA | DISTRICT COURT

COUNTY OF RICE | THIRD JUDICIAL DISTRICT

Case Type: Civil-Other

Benda for Common-sense, a Minnesota Non-Profit Corporation, and Kathleen Hagen,

Plaintiffs,

v.

Denise Anderson, Director of Rice County Property and Tax Elections,

Defendant.

Court File No. 66-CV-22-2022

DECLARATION OF DAVID MAEDA

David Maeda, being first duly sworn, deposes and says the following:

1. I am Director of Elections for the State of Minnesota in the Elections Division of the Office of the Secretary of State (OSS). I have held this position since February 2019. I also have extensive prior experience in election administration, having served as the supervisor responsible for elections in Washington County from 1996 to 1998, as the supervisor responsible for elections in Hennepin County from 2004 to 2007, and as the clerk of the City of Minnetonka from 2007 to 2018, before assuming my current position.

2. My current duties include supervising all election administration work conducted by OSS. In my past positions, my duties included overseeing elections in Washington County, Hennepin County, and the city of Minnetonka.

3. Before a voting system can be used in Minnesota, it must be certified by an independent testing authority accredited by the Election Assistance Commission (EAC). The independent testing authority certifies that the voting system complies with the federal guidelines

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for voting systems. After a system is certified, the vendor is required to submit an application to OSS that includes the independent testing authority's report.

4. Each county in Minnesota contracts with a private vendor to provide crucial services pertaining to elections. One vendor that supplies such services to a number of Minnesota counties is Election Systems & Software (ES&S). ES&S prints ballots and manufactures, markets, and maintains computer hardware and software products that permit local governments to conduct elections. According to information that Rice County has provided to OSS, Rice County contracts with ES&S to provide these services for elections conducted in the county. ES&S also contracts to provide such services to the majority of the other 86 counties in Minnesota.

5. On September 10, 2019, ES&S submitted an application to OSS for certification of one of its software products, ElectionWare Voting System (EVS) Version 5.3.4.1.[1] Included with the application materials was a July 2, 2019 report from Pro V&V, an independent testing authority accredited by the EAC. A copy of the Pro V&V test report is attached as Exhibit A to this declaration.

6. Staff from OSS tested the software on computer hardware made by ES&S, including the company's DS200 precinct tabulators and a DS450 central-count machine. After this testing, OSS certified EVS Version 5.3.4.1 on May 12, 2020. OSS's certification process examined the ballot-programming, electronic ballot-marking, vote-counting, vote-accumulation, and voter-assistance functions required by Minnesota law. The tabulators and machines passed all testing, and OSS certified them. A copy of OSS's certification is attached to this declaration as Exhibit B. A copy of the report underlying and explaining the certification is attached as Exhibit C.[1]

[1] Due to a typographical error, the OSS report attached as Exhibit C misstates the date on which ES&S submitted the application for certification of EVS Version 5.3.4.1. The correct date of the application is September 10, 2019.

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7. In each election cycle, each Minnesota county is required to provide OSS with an equipment plan listing the hardware and software equipment that will be used in elections within the county. For the primary and general elections being conducted in 2022, Rice County met this requirement by submitting its 2022 Equipment Plan to OSS in April 2022 and updating it in July. A copy of this plan is attached as Exhibit D.

8. In its 2022 Equipment Plan, Rice County indicated that it planned to use EVS Version 5.3.4.1 along with DS200 and DS450 hardware in primary and general elections in 2022. Rice County submitted the initial draft of the plan on April 26, 2022. County staff added the final two pages of the plan, which provided specific additional information regarding the EVS software in use on Rice County's systems, on July 8. (*See* Ex. D.)

9. No election hardware or software system certified for use in Minnesota uses a modem to transmit official election results. Instead, each system must output election results by printing a hard copy in the manner mandated by Minnesota law. *See* Minn. Stat § 206.845, subd. 1 (2020).

10. After the official hard-copy results have been printed, Minnesota law permits election systems to use a modem to transmit unofficial election results to a central reporting location. *Id.*, subd. 2. No such modem connection, however, may be established before the results are printed. *Id*.

11. Minnesota law governing certification of election systems does not authorize testing or require certification of modems or modem functions. As a result, OSS does not examine modems in any of its voting-system certification testing. Instead, OSS certification examines the voting systems' ability to provide election results in the manner required by state law—that is, by printing a hard copy.

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12. In its certification report for EVS Version 5.3.4.1, OSS noted that the report did not examine any of the modeming functions of the EVS 5.3.4.1 Voting System. (*See* Ex. C § 3.5.) The testing process OSS carried out, however, demonstrated that when the polls are closed on the DS200 tabulator, the hard-copy results tape is printed prior to the system presenting an option to transmit results via modem. (*Id.*)

13. Because ES&S is the ballot vendor for the majority of counties in Minnesota, a very large number of local election jurisdictions currently intend to conduct the November general election using ES&S hardware and software that is similar or identical to the systems that Rice County intends to use. As a result, any order from this Court barring Rice County from using its ES&S systems would likely have severe consequences for the conduct of the election across the state.

14. I declare under penalty of perjury that everything I have stated in this declaration is true and correct.

Dated: October 13, 2022

/s/**David Maeda**
DAVID MAEDA

Test Report

Election Systems & Software (ES&S)
Voting System (EVS) 5.3.4.1
Certification Testing

Approved by: _____

for **Michael Walker, VSTL Project Manager**

Approved by: _____

Wendy Owens, VSTL Program Manager

July 2, 2019

EXHIBIT A

1.0 INTRODUCTION

The purpose of this Test Report is to document the procedures that Pro V&V, Inc. followed to perform testing on the Election Systems and Software (ES&S) Voting System EVS 5.3.4.1 (EVS 5.3.4.1) to the requirements set forth for voting systems in the U.S. Election Assistance Commission (EAC) 2005 Voluntary Voting System Guidelines (VVSG), Version 1.0.

1.1 References

The documents listed below were utilized in the development of this Test Report:

- ES&S Voting System EVS 5.3.4.1 System Change Notes, Document Revision 1.0
- Election Assistance Commission (EAC) 2005 Voluntary Voting System Guidelines (VVSG) Version 1.0, Volume I, "Voting System Performance Guidelines", and Volume II, "National Certification Testing Guidelines"
- National Voluntary Laboratory Accreditation Program NIST Handbook 150, 2016 Edition, "NVLAP Procedures and General Requirements (NIST Handbook 150)", dated July 2016
- National Voluntary Laboratory Accreditation Program NIST Handbook 150-22, 2017 Edition, "Voting System Testing (NIST Handbook 150-22-2017)", dated July 2017
- Pro V&V, Inc. Quality Assurance Manual, Revision 7.0
- United States 107th Congress Help America Vote Act (HAVA) of 2002 (Public Law 107-252), dated October 2002
- Election Assistance Commission Testing and Certification Program Manual, Version 2.0
- Election Assistance Commission Voting System Test Laboratory Program Manual, Version 2.0
- EAC Requests for Interpretation (RFI) (listed on www.eac.gov)
- EAC Notices of Clarification (NOC) (listed on www.eac.gov)
- ES&S Voting System EVS 5.3.4.1 Technical Data Package *(A listing of the TDP documents submitted for this test campaign is included in Section 3.3.1 of this Test Report)*

1.2 Terms and Abbreviations

"ADA" –Americans with Disabilities Act

"BMD" – Ballot Marking Device

"CBT" – Central Ballot Tabulator

"COTS" – Commercial Off-The-Shelf

"DRE" – Direct Record Electronic

"EAC" – Election Assistance Commission

"EMS" – Election Management System

"ERM" – Election Reporting Manager

"ES&S" Election Systems & Software LLC

"FCA" – Functional Configuration Audit

"HAVA" – Help America Vote Act

"PCA" – Physical Configuration Audit

"PBT" – Precinct Ballot Tabulator

"TDP" – Technical Data Package

"UVS" – Universal Voting System

"VAT" – Voter Assist Terminal

"VVSG" – Voluntary Voting System Guidelines

1.3 Description of Modification

ES&S's EVS 5.3.4.1 Voting System (EVS 5.3.4.1) is based on the previously VSTL-certified EVS 5.2.4.1 (which was baselined from the EAC-certified EVS 5.2.4.0). Specific updates focused on telecommunications capabilities and write-in support. This release includes support for Presidential Preference Primary (PPP) voting, including the ability to process overvotes and undervotes on the DS200 with the new PPP contest type.

ES&S has identified the following modifications which are incorporated into the EVS 5.3.4.1 system:

Detailed Description of Changes

Software/Firmware Changes:

- Cross-Product Changes

  The following changes were made across multiple products as part of this release:

  - Telecommunication Support

- Impacted Products: DS200, Electionware
  - Added support for modeming.

- DS200
  - Write-In Support
    - Changed the Write-in Review report to sort write-ins by precinct.
    - Revised the Write-In Review report to suppress contests with no entered write-in votes. This will save space on the report and avoid wasting report tape.

1.4 Scope of Testing

Pro V&V performed an evaluation of the results from the previous test campaign along with the changes made to the system to determine the scope of testing required for the submitted modification. It was determined the following tasks would be required to verify compliance of the VVPAT:

- Technical Data Package (TDP) Review

  A limited TDP Review was performed to ensure that all submitted modifications were accurately documented and that the documents meet the requirements of the EAC VVSG, Version 1.0.

- Physical Configuration Audit (PCA), including Security Testing

  A PCA was performed to compare the voting system submitted for certification testing to the manufacturer's technical documentation.

- Source Code Review, Compliance Build, Trusted Build, and Build Document Review

  The source code review was based on the source code changes made since the previous system was certified.

  Build document review was performed to ensure that all required equipment and software were current during the building process. A compliance build was created after the reviews. Once the integrity of the compliance build was verified, the trusted build was created.

- Accuracy Testing

  The Accuracy Test was performed to ensure the EVS 5.3.4.1 correctly captured, stored, consolidated, and reported the specific ballot selections, and absence of selections, for each ballot position.

EXHIBIT A

- Telecommunications Testing

  Telecommunications testing was conducted on the EVS 5.3.4.1 to determine the capability of the system to transmit and receive data electronically using hardware and software components over distances both within and external to a polling place. All telecommunications were tested using the Verizon Private Network, or Zero Tunnel. The DS200 utilized the Verizon 4R.2 modem. *Additional data transmissions used to operate a voting system in the conduct of an election but not explicitly listed in the VVSG are also subject to the requirements of this section. For systems that transmit data using public networks, this section applies to telecommunications hardware and software for transmissions within and among all combinations of senders and receivers located at polling places, precinct count facilities and central count facilities (whether operated by the jurisdiction or a contractor).*

2.0 TESTING OVERVIEW

The evaluation of EVS 5.3.4.1 was designed to verify that certain features and applications, which have been modified from the certified baseline system, conform to the applicable EAC VVSG 1.0 requirements. The evaluation addressed each of the test goals in the following manner:

Table 1-1: Testing Overview

Test Goal	Testing Response
Perform Source Code Review of any modified source code, generate Trusted Builds, and perform a Build Documentation Review	Trusted Builds were generated for the EVS 5.3.4.1 components during the test campaign. The source code submitted by ES&S was reviewed by Pro V&V and was successfully built using the submitted COTS and third-party software products. Additionally, build documentation was reviewed.
Perform System Setup, Loads, and Hardening	The system setup, loads, and hardening was tested by comparing the voting system submitted for certification testing to the manufacturer's technical documentation.
Accuracy Testing (including Telecommunication Testing)	Accuracy Testing was performed to verify that the voting system components could accurately process ballot selections, transmit selections back to the EMS, and produce accurate totals.

Table 1-1: Testing Overview *(continued)*

Test Goal	Testing Response
System Integration (including FCA and Telecommunications Testing)	System Integration and FCA testing were conducted to verify system functionality.
Telecommunications Testing	Telecommunications testing was conducted on the EVS 5.3.4.1 to determine the capability of the system to transmit and receive data electronically using hardware and software components over distances both within and external to a polling place.
Perform PCA & Receipt Inspection	A PCA and Receipt Inspection were performed to compare the voting system components and materials submitted for testing against the manufacturer's technical documentation.

2.1 Test Candidate

A description of the system tested, as taken from the manufacturer's submitted technical documentation, is provided in the paragraphs below.

EVS 5.3.4.1 includes the following hardware: ExpressVote Universal Voting System (UVS), Hardware 1.0, ExpressVote Universal Voting System (UVS), Hardware 2.1, AutoMARK Voter Assist Terminal (VAT), DS200 Precinct Ballot Tabulator (PBT), DS450 Central Ballot Tabulator (CBT), and the DS850 Central Ballot Tabulator (CBT).

ExpressVote Universal Voting System

The ExpressVote Universal Voting System is a universal vote capture device, with independent voter-verifiable paper record that is digitally scanned for tabulation. This system combines paper-based voting with touch screen technology. The ExpressVote is designed to serve all voters, including those with special needs. Voters navigate ballot selections using the touch screen, detachable ADA keypad, or ADA support peripheral such as a sip-and-puff or other binary tactile device.

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. Once printed, ES&S ballot scanners process the vote summary card. The ExpressVote serves those with special needs, allowing voters to cast ballots autonomously. ES&S has fully integrated the ExpressVote with the existing suite of ES&S voting system products.

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DS200 Precinct Ballot Tabulator

The DS200 is a paper-based precinct tabulator that scans voter selections from both sides of the ballot simultaneously. It has a large touch screen for voter communication, an integrated thermal printer for limitless Election Day printing, an easy-to-use interface and an internal battery pack for reliable power in the event of a power outage. The DS200 can scan a variety of ballot sizes, including vote summary cards.

DS450 Scanner and Tabulator

The DS450 is a high-throughput scanner and tabulator that simultaneously scans the front and back of a paper ballot and/or vote summary card. The DS450 reads ballots in any of four orientations and sorts tabulated ballots into discrete output 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 flash drive for processing with ERM. Optionally, this device may be configured to transmit tabulation results to the results server through a closed network connection rather than using physically transported USB flash drives.

DS850 Central Ballot Tabulator

The DS850 is a 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 and ballot images to an internal hard disk and exports results to a USB flash drive for processing with ERM. Optionally, this device may be configured to transmit tabulation results to the results server through a closed network connection rather than using physically transported USB flash drives.

AutoMARK Voter Assist Terminal

AutoMARK Voter Assist Terminal 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 touch screen, physical keypad or ADA support peripheral such as a sip and puff device or binary tactile device.

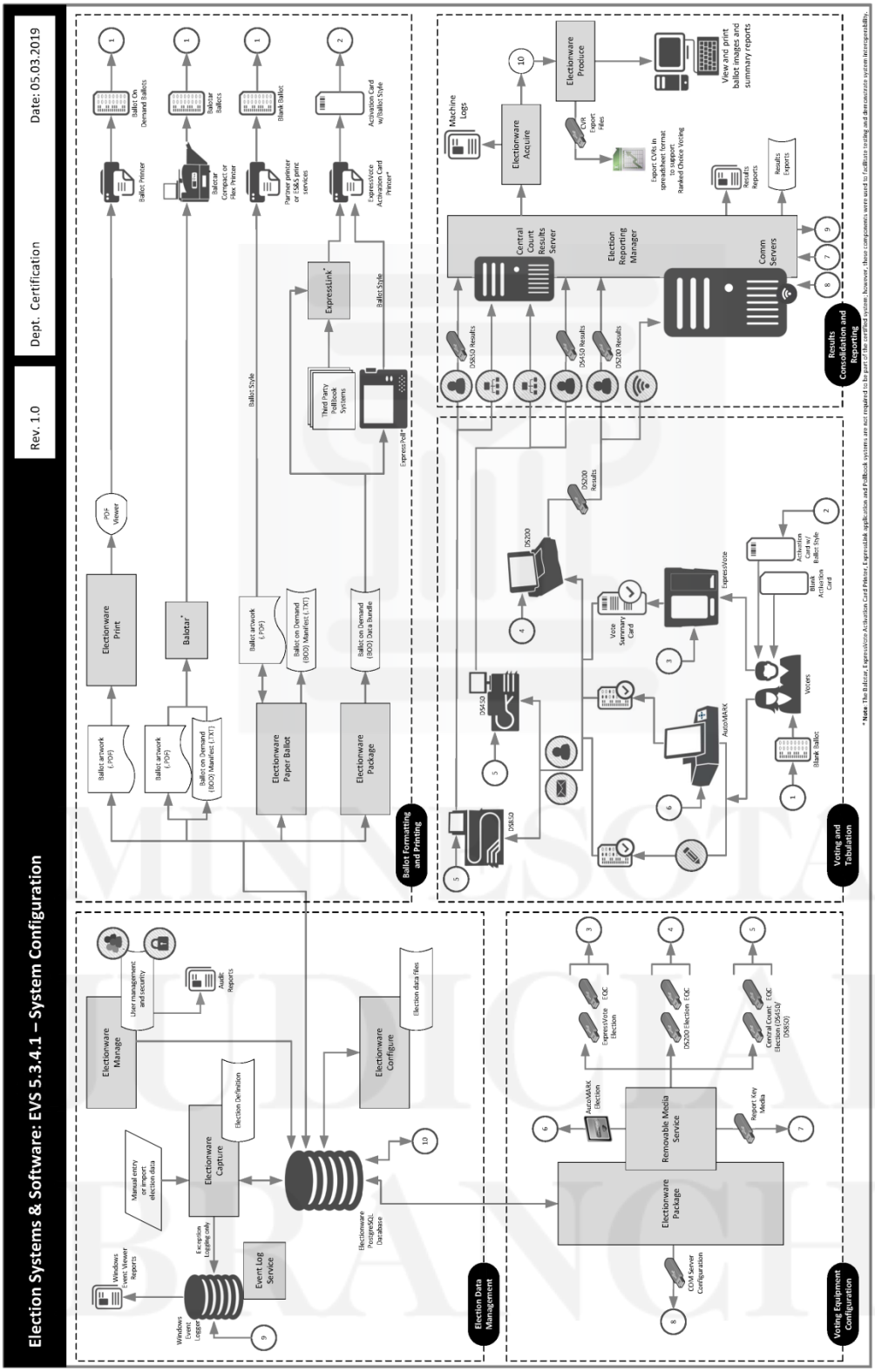

Figure 2.1 Voting System Overview

EXHIBIT A

Table 2-1 lists the software components of the EVS 5.3.4.1 that were evaluated during testing.

Table 2-1: EVS 5.3.4.1 System Components

System Component	Software or Firmware Version	Hardware Version(s)	Description
ExpressVote HW 1.0	1.4.1.7	1.0	Universal Voting System
ExpressVote HW 2.1	2.4.2.0	2.1.0.0 2.1.2.0	Universal Voting System
ExpressVote Rolling Kiosk	---	1.0	Portable voting booth
Thermal Printer	LTPD-347B	---	Thermal report printer
ExpressVote Voting Booth	---	---	Stationary voting booth
Quad ExpressCart	---	---	Portable voting booth
Voting Booth Workstation	---	---	Stationary voting booth
MXB ExpressVote Voting Booth	---	---	Stationary voting booth
ExpressVote Double Table	---	---	Voting table for two units
ExpressVote Single Table	---	---	Voting table for one unit
ADA Table	---	---	Voting table
DS200	2.12.6.0	1.2, 1.3, 1.3.11	Precinct ballot tabulator
DS200 Ballot Box	---	1.2, 1.3, 1.4, 1.5	Plastic Ballot Box
DS200 Ballot Box	---	1.0, 1.1, 1.2	Metal Ballot Box
DS200 Ballot Box	---	1.0, 1.1	Collapsible Ballot Box
DS200 Tote Bin	---	---	Tote Bin Ballot Box
DS450	3.0.2.0	1.0	Central Count Scanner and Tabulator
DS450 Cart	---	---	---
DS850	2.10.4.0	1.0	Ballot Marking Device
DS850 Cart	---	---	---
HP Inkjet Ink Cartridge	---	---	Ink cartridge for ballot number imprinting
Auto MARK A100	1.8.6.1	1.0	ADA Ballot Marking Device
AutoMARK A200	1.8.6.1	1.1, 1.3	ADA Ballot Marking Device
AutoMARK A300	1.8.6.1	1.3	ADA Ballot Marking Device
AutoMARK Table	---	---	Voting table for one unit
Electionware	4.7.6.0	---	---
Election Reporting Manager (ERM)	8.12.1.6	---	---
ES&S Event Log Service	1.5.5.0	---	---
AutoMARK VAT Previewer	1.8.6.1	---	---
ExpressVote Previewer	1.4.1.7 (1.0) 2.4.2.0 (2.1)	---	---
Removable Media Service	1.4.5.0	---	---

Table 2-1: EVS 5.3.4.1 System Components *(continued)*

System Component	Software or Firmware Version	Hardware Version(s)	Description
SecureSetup	2.0.0.1		Proprietary Hardening Script
EMS Server	---	Dell PowerEdge T430	Election database creation, media programming and ballot image management
EMS SFTP Server	---	Dell PowerEdge T310	Secure Server used for modeming results
EMS Client Workstation	---	Dell OptiPlex 5050	Election database creation, media programming and ballot image management
Firewall	9.1.7, 9.9.2	Cisco ASA 5505 or 5506-X	Security Appliance for modeming
Router	---	CradlePoint AER1600LPA	Secure Router for modeming
Delkin: USB Flash Drive	---	512MB, 1 GB, 2 GB, 4 GB, 8 GB	Election and ballot definition media
Delkin: Validation USB Flash Drive	---	16 GB	Validation purposes only
Delkin: Compact Flash	---	1 GB	Election and ballot definition media
SanDisk: Compact Flash	---	512 MB, 1 GB, 2 GB	Election and ballot definition media
Delkin: CF Card Reader/Writer	---	6381	Device used to burn firmware media
SanDisk: CF Card Reader	---	018-6305	---
Headphones	---	AVID 86002	ExpressVote & AutoMARK headphones
Scanner (Zebra)	---	DS457-SR20009	QR Code Scanner (Integrated)
Scanner (Symbol)	---	DS9208	QR Code Scanner (External)
DS450 Report Printer	---	Dell S2810dn, OKI B432DN	Laser report printers
DS850 Report Printer	---	OKI B431D, OKI B431DN & OKI B432DN	Laser report printer
DS450 and DS850 Audit Printer	---	OKI Microline 420	Laser report printer
DS450 UPS	---	APC Back-UPS Pro 1500 or Smart-UPS 1500	---

Table 2-1: EVS 5.3.4.1 System Components *(continued)*

System Component	Software or Firmware Version	Hardware Version(s)	Description
DS450 Surge Protector	---	Tripp Lite Spike Cube	---
DS850 UPS	---	APC Back-UPS RS 1500 or Pro 1500	---
Adobe Acrobat Standard	11	---	---
Cerberus FTP	10.0.9 (64-bit)	---	---
Microsoft Server 2008	R2 w/SP1	---	Operating System for EMS and results servers
Microsoft Windows 7 Professional	64-bit/SP1	---	Operating System for client workstations
WSUS Microsoft Windows Offline Update Utility	11.6.1	---	Software updates (Update utility)
Micro Focus RM/COBOL Runtime	12.06	---	---
WS-FTP Professional	12.7.0	---	File transfer client software
Microsoft .NET	3.5	---	.NET framework
Kiwi Syslog Server	9.6.7		Manages system messages
Symantec Endpoint Protection	14.2.0_MP1 (64-bit)	---	Anti-Virus
Symantec Endpoint Protection Intelligent Updater (File-Based Protection)	20190404-001-core15sdsv5i64.exe	---	Anti-Virus
Symantec Endpoint Protection Intelligent Updater (Network-Based Protection)	20190403-061-IPS_IU_SEP_14RU1.exe	---	Anti-Virus
Symantec Endpoint Protection Intelligent Updater (Behavior-Based Protection)	20190401-001-SONAR_IU_SEP.exe	---	Anti-Virus
Visual C++ Redistributable	vcredist_x86.exe	---	Visual C++ 2010 Redistributable

Table 2-2 provides the hardware components of the EVS 5.3.4.1 that were evaluated during this test effort.

Table 2-2: Hardware Components

EVS 5.3.4.1 System Component	Serial Number(s)
Dell Optiplex 5050	Service Tag: 1JJB1S2
Dell Power Edge T430	Service Tag: 2KV30W2
Dell Power Edge T310	Service Tag: 2MQLQW1
Cisco ASA 5505	JMX1717Z0LV
Cisco ASA 5506	JMX2203G32U
CradlePoint AER1600LPA	MM190190900640
OKI B431d	AK59044965A0 (EMS reports)
Dell Keyboard	---
Dell Mouse	---
DS200 1.2	SN 0110340435
Verizon 4G Modem MTSMC-LVW3	20150243
DS200 Carrying case	HW 1.4
DS200 Steel ballot box w/ diverter	No SN found
DS200 1.3	SN 0315412960
Verizon 4G Modem MTSMC-LVW3	5347991K
DS200 Carrying case	HW 1.4
DS200 Plastic Ballot Box	HW 1.4
DS450	SN DS4516053019
OKI B432	AK34002391A0
OKI Microline 420 log printer	AE72011457C0
APC SMART-UPS	3B1B03B421012E
DS850	SN DS8510090039
OKI B431dn	AK53043027A0
OKI Microline 420 log printer	AK5C018657E0
APC BACK-UPS	4B1636P32814
ExpressVote 1.0	SN EV0115370807
ExpressVote rolling kiosk includes integrated QR code scanner	K0116362729
ExpressVote 2.1	SN EV0218382364
ExpressVote voting booth workstation	EV-booth-01
External QR code scanner	SN 15272010505004
AutoMARK	106432020

2.2 Testing Configuration

The testing event utilized each of the above described setups of the EVS 5.3.4.1 and its components. The following is a breakdown of the EVS 5.3.4.1 components and configurations for the test setup:

Standard Testing Platform:

The standard testing platform consisted of a precinct setup with the following components:

- Two DS200 Precinct Ballot Tabulators
- One AutoMARK Voter Assist Terminal
- One ExpressVote Universal Voting System, Hardware 1.0 in Rolling Kiosk
- One ExpressVote Universal Voting System, Hardware 2.1 in Voting Booth Workstation

The standard testing platform also consisted of a central office setup with the following components:

- DS850 Central Ballot Tabulator
- DS450 Central Ballot Tabulator
- EMS Components

Elections and ballots/cards were supplied by ES&S. Once ballots/cards were marked and subsequently cast on a DS200, the polls were closed and tabulation reports were printed, with results being further transported back to the EMS either manually or by telecommunication via modem. Ballots/cards were additionally cast on the DS850 and DS450 and manually transported or networked to the EMS. Results were tabulated on the EMS and reviewed and compared and found consistent with the expected results.

2.3 Test Support Equipment/Materials

All test support equipment/materials required to facilitate testing were supplied by ES&S.

3.0 TEST PROCESS AND RESULTS

The following sections outline the test process that was followed to evaluate the EVS 5.3.4.1 to the test goals defined in the scope of this Test Report.

3.1 General Information

All functional and system level testing was conducted by qualified Pro V&V personnel at the ES&S facility located in Omaha, NE.

EXHIBIT A

3.2 Test Cases/Procedures

Test procedures were developed to evaluate the system being tested against the stated requirements. Prior to execution of the required test procedures, the system under test was subjected to testing initialization to establish the baseline for testing and ensure that the test candidate matched the expected test candidate and that all equipment and supplies are present.

The following tasks were completed during the testing initialization:

- Ensure proper system of equipment. Check network connections, power cords, keys, etc.
- Check version numbers of (system) software and firmware on all components.
- Verify the presence of only the documented COTS.
- Ensure removable media is clean.
- Ensure batteries are fully charged.
- Inspect supplies and test decks.
- Record protective counter on all tabulators.
- Review physical security measures of all equipment.
- Record basic observations of the testing setup and review.
- Record serial numbers of equipment.
- Retain proof of version numbers.

3.3 Summary Findings

Summary findings for the System Level Testing (System Integration Testing, Accuracy, and FCA), PCA (including Security Review), and Source Code Review are detailed in the relevant sections of this report. In addition to these areas of testing, a limited TDP Review was performed, as described below.

3.3.1 Technical Documentation Package (TDP) Review

In order to determine compliance of the modified TDP documents with the EAC VVSG 1.0, a limited TDP review was conducted. This review focused on TDP documents that have been modified since the certification of the baseline system. The review consisted of a compliance review to verify that each regulatory, state, or manufacturer-stated requirement had been met based on the context of each requirement.

A listing of all documents contained in the EVS 5.3.4.1 TDP is provided in Table 3-1.

Table 3-1: EVS 5.3.4.1 Technical Data Package

Document Name	Doc. Revision
01 TDP - 00_Preface	
Requirements of the 2005 VVSG Trace to Technical Data Package - ES&S Voting System 5.3.4.1	1.0
01_System Overview	
System Overview - ES&S Voting System 5.3.4.1	1.1
02_System Functionality Description	
System Functionality Description - ES&S Voting System 5.3.4.1	1.0
03_System Hardware Specifications	
AutoMARK System Hardware Overview	9.0
AutoMARK System Hardware Specification	6.0
DS200 1.2 Hardware Specification	3.5
DS200 1.3 Hardware Specification	4.7
DS450 1.0 Hardware Specification	1.6
DS850 1.0 Hardware Specification	1.6
ExpressVote Hardware Specification 1.0	3.10
ExpressVote Hardware Specification 2.1	1.3
03_System Hardware Specifications - Approved Parts List	
AutoMARK A100 Approved Parts List	2.0
AutoMARK A200 Approved Parts List	2.0
AutoMARK A300 Approved Parts List	2.0
Approved Parts List: DS200 HW Rev 1.2	1.1
Approved Parts List: DS200 HW Rev 1.3	1.6
Approved Parts List: DS450 HW Rev 1.0	1.1
Approved Parts List: DS850 HW Rev 1.0	1.1
Approved Parts List: ExpressVote HW Rev 1.0	1.1
Approved Parts List: ExpressVote HW Rev 2.3	2.3
04_Software Design and Specifications	
Coding Standards	1.2
System Development Program	1.5
License Agreements for Procured Software	1.3

Table 3.1: EVS 5.3.4.1 Technical Data Package *(continued)*

Document Name	Doc. Revision
04_Software Design and Specifications (continued)	
DS200 - Software Design Specification	1.0
DS450 – Software Design Specification	1.0
DS850 - Software Design Specification	1.0
Electionware - Software and Design Specification	1.1
ES&S Software Design Specifications Event Log Service (ELS)	1.0
ES&S Software Design Specifications Election Reporting Manager (ERM)	1.0
ExpressVote Software Design and Specification	1.0
ExpressVote (Hardware Version 2.1) Software Design Specification	1.0
04_Software Design and Specifications – AutoMARK SDS	
AutoMARK ESS Ballot Image Processing Specification AQS-18-5002-003-S	6.0
AutoMARK ESS Ballot Scanning and Printing Specification AQS-18-5002-007-S	5.0
AutoMARK ESS Driver API Specification AQS-18-5000-002-F	5.0
AutoMARK ESS Embedded Database Interface Specifications AQS-18-5002-005-S	6.0
AutoMARK ESS GUI Design Specifications AQS-18-5001-005-R	6.0
AutoMARK ESS Operating Software Design Specifications AQS-18-5001-002-R	5.0
AutoMARK ESS Operations and Diagnostic Log Specs AQS-18-5002-004-S	5.0
AutoMARK ESS Programming Specifications Details AQS-18-5001-011-R	6.0
AutoMARK ESS Software Design Spec AQS-18-5001-004-S	7.0
AutoMARK Voter Assist Terminal (VAT) ESS Software Design Spec Overview	N/A
AutoMARK ESS Software Development Environment AQS-18-5001-006-R	5.0
AutoMARK ESS Software Diagnostics Specifications AQS-18-5000-004-F	5.0
AutoMARK ESS Software Standards Specification AQS-18-4000-000-S	5.0
05_System Test and Verification - 01_UsabilityTestReports	
ES&S AutoMARK Voter Assist Terminal (VAT)	1.X
DS200 Precinct Ballot Scanner	1.2.1
ExpressVote Usability Report ES&S Voting System 5.2.0.0	N/A
06_System Security Specification	
AutoMARK ESS System Security Specification AQS-18-5002-001-S	7.0
EMS Client Workstation Secure Setup & Configuration Guide	1.0

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Table 3.1: EVS 5.3.4.1 Technical Data Package *(continued)*

Document Name	Doc. Revision
06_System Security Specification (continued)	
EMS Server Secure Setup & Configuration Guide	1.0
Best Practices for Physically Securing ES&S Equipment	1.0
Standalone EMS Workstation Secure Setup & Configuration Guide	1.0
Voting System Security Specification	1.0
Security Script Description	1.0
CradlePoint Setup & Configuration Guide	1.0
Firewall Setup & Configuration Guide	1.0
Data Communication Server Secure Setup & Configuration Guide	1.0
06_System Security Specification - 01_VerificationProcedures&Scripts	
Verification Procedure, Election Management System Workstation and Server	1.0
Verification Procedure: AutoMARK Ballot Marking Device	1.0
Verification Procedure: DS850 High-Speed Scanner & Tabulator	1.0
Verification Procedure: DS450 High-Throughput Scanner & Tabulator	1.0
Verification Procedure: DS200 Precinct Scanner and Tabulator	1.0
Verification Procedure: ExpressVote Hardware 1.0	1.0
Verification Procedure: ExpressVote Hardware 2.1	1.0
06_System Security Specification - 02_ValidationFileLists	
EVS5341_D_L01_StaticDynamicFileList_Electionware.xlsm	1.1
EVS5341_D_L02_StaticDynamicFileList_ExpressVote_HW1'0	1.0
EVS5341_D_L02_StaticDynamicFileList_ExpressVote_HW2'1	1.2
EVS5341_D_L03_StaticDynamicFileList_DS450.xlsm	1.0
EVS5341_D_L04_StaticDynamicFileList_DS200.xlsm	1.2
EVS5341_D_L05_StaticDynamicFileList_DS850.xlsm	1.0
EVS5341_D_L06_StaticDynamicFileList_AutoMARK.xlsm	1.0
EVS5341_D_L08_StaticDynamicFileList_ERM.xlsm	1.0
EVS5341_D_L11_StaticDynamicFileList_ExpressVotePreviewer_HW1'0	1.0
EVS5341_D_L11_StaticDynamicFileList_ExpressVotePreviewer_HW2’1	1.1
EVS5341_D_L19_StaticDynamicFileList_VATPreviewer.xlsm	1.0

Table 3.1: EVS 5.3.4.1 Technical Data Package *(continued)*

Document Name	Doc. Revision
06_System Security Specification - 10_BuildProcedures	
Build Procedure: DS200 Precinct Scanner & Tabulator Trusted Build 1	1.1
Build Procedure, Election Management System Trusted Build 1	1.1
06_System Security Specification - 10_BuildProcedures-Harvested	
Build Environment Construction: VM Ds450 Central Scanner & Tabulator	1.0
Build Procedure, DS450 Trusted Build 1	1.0
Build Procedure: DS850 Central Scanner & Tabulator Trusted Build 1	1.0
Commercial-Off-The-Shelf Install Guide DS200 Ancillary Devices ES&S Voting System 5.0.0.0	1.1
Build Environment Construction, Election Management System	1.4
Build Procedure: ExpressVoteUVS-v1 and ExpressVoteUVS-v1 Previewer Trusted Build 1	2.0
Build Environment Construction VM, EMS	1.2
Build Environment Construction, ExpressVote	1.1
Build Procedure, AutoMARK VAT and VAT Previewer Trusted Build 1	1.1
Build Procedure: cipherUpdateKeys Trusted Build 1	1.2
Build Environment Construction, AutoMARK VAT and VAT Preview	1.1
Build Procedure: ExpressVoteUVS-v1 and ExpressVoteUVS-v1 Previewer Trusted Build 1	1.0
Build Procedure: ExpressVoteUVS-v2 and ExpressVoteUVS-v2 Previewer Trusted Build 1	1.0
Build Procedure, Election Management System Trusted Build 1	1.0
Build Environment Construction Election Management System	1.0
Title: Build Environment Construction, EMS, Addendum 1	1.0
Build Environment, Installer, Windows Embedded Standard 7	1.2
Build Process Microsoft Windows Embedded Developer Update	1.1
Build Procedure, Election Management System Trusted Build 2	1.0
Build Procedure, ExpressVote COTS Image Trusted Build 3	1.3
Build Procedure, Windows Embedded Standard 7 Installer	1.3
Build Environment Construction: ExpressVote UVS-V2	1.1
Build Environment Construction, Election Management System	1.3

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Table 3.1: EVS 5.3.4.1 Technical Data Package *(continued)*

Document Name	Doc. Revision
07_System Operations Procedures	
AutoMARK Operator's Guide Firmware Version 1.8	1.0
DS200 Operator's Guide Firmware Version 2.12	1.1
DS200 Operator's Guide Appendices Firmware Version 2.12	1.0
DS450 Operator's Guide Firmware Version 3.0	1.2
DS450 Operator's Guide Appendices Firmware Version 3.0	1.0
DS850 Operator's Guide Firmware Version 2.10	1.2
DS850 Operator's Guide Appendices Firmware Version 2.10	1.0
EVS Event Logging Service User's Guide Software Version 1.5	1.0
Election Reporting Manager User's Guide Software Version 8.12	1.0
Election Reporting Manager User's Guide Appendices Software Version 8.12	1.0
Electionware Vol. I: Administrator Guide Software Version 4.7.5.0	1.1
Electionware Vol. II: Define User Guide Software Version 4.7.5.0	1.0
Electionware Vol. III: Design User Guide Software Version 4.7.5.0	1.0
Electionware Vol. IV: Deliver User Guide Software Version 4.7.5.0	1.2
Electionware Vol. V: Results User Guide Software Version 4.7.5.0	1.0
Electionware Vol. VI: Appendices Software Version 4.7.5.0	1.0
ExpressVote Operator's Guide Firmware Version 1.4	1.0
ExpressVote Operator's Guide Appendices Firmware Version 1.4	1.0
ExpressVote Operator's Guide Hardware Version 2.1 Firmware Version 2.4	1.0
08_System Maintenance Manuals	
AutoMARK Maintenance Manual Firmware Version 1.8	1.0
DS200 Maintenance Manual Firmware Version 2.12	1.0
DS450 Maintenance Manual Firmware Version 3.0	1.0
DS850 Maintenance Manual Firmware Version 2.10	1.0
ExpressVote Maintenance Manual Firmware Version 1.4	1.0
ExpressVote Maintenance Manual Firmware Version 2.4 Hardware Version 2.1	1.0
09_Personnel Deployment and Training	
Personnel Deployment and Training Program	1.1

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Table 3.1: EVS 5.3.4.1 Technical Data Package *(continued)*

Document Name	Doc. Revision
10_Configuration Management Plan	
Configuration Management Program	2.1
Technical Documentation Program	1.3
11_QA Program	
Manufacturing Quality Assurance Program	1.9
Software Quality Assurance Program	1.2
12_System Change Notes	
ES&S Voting System 5.3.4.1 System Change Notes	1.0
13_Attachments	
Ballot Production Guide for EVS	3.2

Summary Findings:

A versioning review was conducted, as well as functionality and compliance reviews on the modifications made following the previous certification testing. This review did not address consistency or completeness of documents. Results of the review of each document were entered on the TDP Review Checklist. Any documents that were revised during the TDP review process were compared with the previous document revision to determine changes made, and the document was re-reviewed to determine whether the discrepancies had been resolved.

During execution of the test campaign, it was verified that the technical documentation provided for the EVS 5.3.4.1 was effectively reviewed with all discrepancies that were noted during the review being resolved.

3.3.2 Source Code Review

Pro V&V reviewed the submitted source code to the EAC VVSG 1.0 and the manufacturer-submitted coding standards. Prior to initiating the software review, Pro V&V verified that the submitted documentation is sufficient to enable: (1) a review of the source code and (2) Pro V&V to design and conduct tests at every level of the software structure to verify that design specifications and performance guidelines are met. The source code review was based on the source code changes made since the previous system was certified.

Summary Findings:

During execution of the test procedure, it was verified that the source code provided for the EVS 5.3.4.1 successfully met the requirements. After a review of the submitted code was completed, all issues were reported and resolved prior to the Trusted Build. To perform the trusted build, ES&S submitted source code, COTS, and third-party software products. These items were inspected and combined to create the executable code. Additionally, during the performance of the trusted build, the build documentation was

reviewed. During execution of the Trusted Build, the source code submitted by ES&S and reviewed by Pro V&V was successfully built using the submitted COTS and third-party software products, and the reviewed build documentation.

3.3.3 Physical Configuration Audit

The Physical Configuration Audit (PCA) compares the voting system components submitted for certification testing to the manufacturer's technical documentation. The purpose of the PCA was to verify that the submitted hardware is unmodified from the previously certified voting system. The PCA included the following activities:

- Establish a configuration baseline of software and hardware to be tested; confirm whether manufacturer's documentation is sufficient for the user to install, validate, operate, and maintain the voting system
- Verify software conforms to the manufacturer's specifications; inspect all records of manufacturer's release control system; if changes have been made to the baseline version, verify manufacturer's engineering and test data are for the software version submitted for certification
- If the hardware is non-COTS, Pro V&V reviewed drawings, specifications, technical data, and test data associated with system hardware to establish a system hardware baseline associated with the software baseline
- Review manufacturer's documents of user acceptance test procedures and data against system's functional specifications; resolve any discrepancy or inadequacy in manufacturer's plan or data prior to beginning system integration functional and performance tests
- Subsequent changes to baseline software configuration made during testing, as well as system hardware changes that may produce a change in software operation are subject to re-examination

Summary Findings:

During execution of the test procedure, the components of the EVS 5.3.4.1 were documented by component name, model, serial number, major component, and any other relevant information needed to identify the component. For COTS equipment, every effort was made to verify that the COTS equipment had not been modified for use. Additionally, each technical document submitted in the TDP was recorded by document name, description, document number, revision number, and date of release. At the conclusion of the test campaign, test personnel verified that any changes made to the software, hardware, or documentation during the test process were fully and properly documented.

3.3.4 System Level Testing

System Level Testing included the Functional Configuration Audit (FCA), the Accuracy Test, and the System Integration Tests. The Accuracy Test and the System Integration Tests were performed as part of the Regression Test requirements for this campaign. System Level Testing was implemented to evaluate the complete system. This testing included all proprietary components and COTS components (software, hardware, and peripherals).

The FCA for this test campaign focused on telecommunications capabilities (modeming) and write-in support.

EXHIBIT A

This evaluation utilized baseline test cases as well as specifically designed test cases and included predefined election definitions for the input data. As part of the FCA, two Primary Elections and one General Election were executed to verify that each of the submitted modifications had been successfully implemented. The System Integration Tests were performed to verify the EVS 5.3.4.1 functioned as a complete system.

During System Level Testing, the system was configured exactly as it would for normal field use per the procedures detailed in the submitted technical documentation. This included connecting all supporting equipment and peripherals as well as any physical security equipment such as locks and ties.

3.3.4.1 Functional Configuration Audit (FCA) / Regression Testing

During testing, modified functionality was observed to note any changes to documented baseline functionality. This testing used both positive and negative criteria to measure conclusions. The primary focus of the FCA was the incorporation of the modifications to the system.

Regression testing was additionally performed as needed on the system components to verify that all functional and/or software modifications made during the test campaign did not adversely affect the system and its operation.

Summary Findings:

During testing all modification performed as documented and nothing was noted suggesting that additional testing was needed.

3.3.4.2 Accuracy

The Accuracy test addressed the capability to successfully transmit accurate results. After test performance, results were verified on each component and transmitted to the EMS where they were compiled and re-verified to be accurate.

Summary Findings:

The EVS 5.3.4.1 accurately captured as well as recorded ballot selections and integrated the results using the EMS. All results obtained during test execution matched the expected results.

3.3.4.3 System Integration

The system level certification tests addressed the integration of the hardware and software. This testing focused on the compatibility of the voting system software components and subsystems with one another and with other components of the voting system as a whole. During test performance, the system was configured as would be for normal field use.

Summary Findings:

One General Election and two Primary Elections were successfully exercised on the voting system, with the breakdowns as described below:

- General Election GEN-01: A basic election held in four precincts, one of which is a split precinct. This election contains 19 contests compiled into four ballot styles. Five of the contests are in all four ballot styles. The other 15 contests are split between at least two of the precincts with a maximum of four different contest spread across the four precincts.

- Primary Election PRIM-01: Open Primary Election in two precincts. This election contained 30 contests compiled into five ballot styles. Each ballot style contains six contests.

- Primary Election PRIM-02: Closed Primary Election held in ten precincts: Rhode Island Presidential Preference Primary election (RI PPP). This election contains seven contests compiled into ten ballot styles. A total of three contests linked to Democratic candidates and four contests linked to Republican candidates. Of the three contests on Democratic ballots, two rotate in and out depending on even and odd precincts. Of the four contests on Republican ballots, two rotate in and out depending on even and odd precincts.

The EVS 5.3.4.1 successfully completed the system level integration tests with all results obtained during test execution matching the expected results.

4.0 CONCLUSION

The EVS 5.3.4.1, as presented for testing, successfully met the requirements set forth for voting systems in the U.S. Election Assistance Commission (EAC) 2005 Voluntary Voting System Guidelines (VVSG), Version 1.0, with no deficiencies or anomalies noted during testing. Additionally, Pro V&V, Inc. has determined that the EVS 5.3.4.1 functioned as a complete system during System Integration Testing.

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Appendix A

Table A1.1: Ancillary Components

System Component	Software or Firmware Version	Hardware Version(s)	Description
Electionware – ToolBox Test Deck*	3.5.0.0	---	Optional means for the election official to test the election on each machine
Electionware – ToolBox Text to Speech	3.5.0.0	---	An optional simplified method for creating the audio wave files

**Component not tested as part of this test campaign*

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Certification of ES&S ElectionWare Voting System 5.3.4.1 (EVS 5.3.4.1)

I, Steve Simon, Secretary of State of Minnesota, hereby certify that:

Election Systems and Software (ES&S) has requested the Office of the Minnesota Secretary of State (OSS) to examine and certify the ES&S ElectionWare Voting System version 5.3.4.1 (EVS 5.3.4.1) for use in Minnesota elections as certified to the 2005 Voluntary Voting Systems Guidelines, version 1.0 (2005 VVSG). The system addressed in this certification includes the following Components:

Software:	Version:
ElectionWare	4.7.6.0
Election Reporting Manager	8.12.1.6
Event Log Service	1.5.5.0
Removeable Media Service	1.4.5.0
VAT Previewer	1.8.6.1

Hardware:	Firmware Version	Hardware Version	OS	SBC	PEB
AutoMARK VAT (1)	1.8.6.1	A100 v. 1.0	5.00.20	1.0	1.70
AutoMARK VAT (2)	1.8.6.1	A200 v. 1.1	5.00.20	2.0	1.70
AutoMARK VAT (3)	1.8.6.1	A200 v. 1.3	5.00.20	2.5	1.70
AutoMARK VAT (4)	1.8.6.1	A300 v. 1.3	5.00.20	2.5	1.70
DS200	2.12.6.0	1.2, 1.3, 1.3.11			
Plastic Ballot Box with tote bin	NA	1.2, 1.3, 1.4, 1.5			
Metal Ballot Box w\Diverter	NA	1.0, 1.1, 1.2			
DS200 Collapsible Ballot Box	NA	1.0, 1.1			
DS450	3.0.2.0	1.0			
DS850	2.10.4.0	1.0			

COTS:	Version
Adobe Acrobat	XI
Cisco A5505 Firewall	9.1.7
Cisco A5506X Firewall	9.9.2
Micro Focus RM/COBOL Runtime	12.06
Microsoft .NET	3.5
Visual C++ Redistributable	vcredist_x86.exe
Symantec Endpoint Protection	14.2.0_MP1 (64-bit)
Symantec Endpoint Protection Intelligent Updater (File Based Protection)	20190404-001-core15sdsv5i64.exe
Symantec Endpoint Protection Intelligent Updater (Network Based Protection)	20190403-061-IPS_IU_SEP_14RU1.exe

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COTS:	Version:
Symantec Endpoint Protection Intelligent Updater (Behavior Based Protection)	20190401-001-SONAR_IU_SEP.exe
Kiwi Server Log	9.6.7
Cerberus FTP	10.0.9 (64 bit)
WS-FTP Professional	12.7.0
Delkin USB Flash Drive	512MG, 1GB, 2GB, 4GB, 8GB
Delkin CF Card	1GB
SanDisk CF Card	512MB, 1GB, 2GB
COTS Operating System	Microsoft Windows 7 64 bit SP1
COTS Operating System	Microsoft Server 2008 R2 SP1
WSUS Microsoft Windows Offline Update Utility	11.6.1
DS450 Report Printer	Dell S2810dn, OKIB432DN
DS850 Report Printer	OKI B431D, OKI B431DN, OKI B432DN
DS450/850 Audit Printer	OKI Microline 420
450 Uninterruptible Power Supply	APC Back UPS Pro 1500 or Smart UPS 1500
850 Uninterruptible Power Supply	APC Back UPS RS 1500 or Pro 1500
Surge Suppressor	Tripp Lite Spike Cube
Delkin Compact Flash Memory Card Reader\Writer	6381
SanDisk Compact Flash Memory Card Reader\Writer	018-6305

Review of the application submitted for the EVS 5.3.4.1 Voting System indicates satisfaction of the requirements of Minnesota Rule 8220.0350.

The EVS 5.3.4.1 Voting System was tested by Pro V&V, Inc. (Pro V&V), an independent testing authority, and Pro V&V determined that: "The EVS 5.3.4.1, as presented for testing, successfully met the requirements set forth for voting systems in the U.S. Elections Assistance Commission (EAC) 2005 Voluntary Voting System Guidelines (VVSG), Version 1.0, with no deficiencies or anomalies noted during testing. Additionally Pro V&V, Inc. has determined that the EVS 5.3.4.1 functioned as a complete system during System Integration Testing."

The demonstration and assessment of the EVS 5.3.4.1 Voting System conducted according to the acceptance demonstration of computer programs criteria, indicates satisfaction of the requirements of Minnesota Rules 8220.0450, 8220.0750, and 8220.0650, subpart 1.

The Secretary of State's Office (OSS) relies upon the July 2, 2019 "Pro V&V Test Report for Elections Systems and Software (ES&S) Voting System (EVS) 5.3.4.1 Certification Testing" (EVS 5.3.4.1 Test Report) in reaching the following certification determination. Based upon the results of OSS certification testing of the components listed above and in reliance upon the independent testing authority certification results of Pro V&V regarding the EVS 5.3.4.1 Voting System, measured to the 2005 VVSG, it is determined that EVS 5.3.4.1 complies with the requirements of Minnesota Statutes sections 206.55 to 206.90 and is certified for use in elections in Minnesota, subject to the following limitations:

1) All AutoMARK VATs that display squares rather than ovals and indicate selections by a check mark rather than a filled in oval must display the following description: "Your selection will be highlighted in yellow with a green checkmark indicating your selection."
2) This Certification does not cover any modeming functions that may be related to the EVS 5.3.4.1 Voting System.

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Certification is subject to the provisions of Minnesota Statutes and Rules. ES&S stipulates that it will employ methods and procedures to safeguard system software and firmware from access by unauthorized parties during all phases of election preparation, including preparation and delivery of election programming and related materials to county and local governments.

Witness my hand and the Great Seal of the
State of Minnesota on this 12th day of May 2020.

Steve Simon
Secretary of State

EXHIBIT B

Certification Report and Recommendation
ES&S EVS 5.3.4.1 Voting System

Prepared by
Elections Division
Office of the Minnesota Secretary of State
State of Minnesota
April 21, 2020

Section 1: Introduction

1.1 EVS 5.3.4.1 Description:

Election Systems and Software (ES&S) submitted an application, dated September 10, 2020 to the Office of the Minnesota Secretary of State (OSS) for the ElectionWare Voting System version 5.3.4.1 (EVS 5.3.4.1) for certification testing to the 2005 Voluntary Voting system Guidelines (2005 VVSG). Pro V&V, an independent testing authority, in its Test Report dated July 2, 2019 (Test Lab Report), determined that "the EVS 5.3.4.1, as presented for testing, successfully met the requirements set forth for voting systems in the U.S. Election Assistance Commission (EAC) 2005 Voluntary Voting system Guidelines (VVSG), version 1.0, with no deficiencies or anomalies noted during testing. The components of the system are as follows:

Software:	Version
ElectionWare	4.7.6.0
Election Reporting Manager	8.12.1.6
Event Log Service	1.5.5.0
Removable Media Service	1.4.5.0
VAT Previewer	1.8.6.1

Hardware:	Firmware Version	Hardware Version	OS	SBC	PEB
AutoMARK VAT (1)	1.8.6.1	A100 v. 1.0	5.00.20	1.0	1.70
AutoMARK VAT (2)	1.8.6.1	A200 v. 1.1	5.00.20	2.0	1.70
AutoMARK VAT (3)	1.8.6.1	A200 v. 1.3	5.00.20	2.5	1.70
AutoMARK VAT (4)	1.8.6.1	A300 v. 1.3.1	5.00.20	2.5	1.70
DS200	2.12.6.0	1.2, 1.3, 1.3.11			
Plastic Ballot Box with Tote Bin	N/A	1.2, 1.3, 1.4, 1.5			
Collapsible Ballot Box	NA	1.0, 1.1			
Metal Ballot Box w/Diverter	NA	1.0, 1.1, 1.2			
DS450	3.0.2.0				
DS850	2.10.4.0				

COTS:	Version
Adobe Acrobat	XI
Cisco 5505 ASA	9.1.7
Cisco 5506-X ASA	9.9.2
Micro Focus RM/COBOL Runtime	12.06
Microsoft.NET	3.5
Visual C++ Redistributable	vcredist_x86.exe
Symantec Endpoint Protection	20190404-001-core15sdsv5i64.exe

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COTS:	**Version**
Symantec Endpoint Protection Intelligent Updater (File Based Protection)	20190403-061-1PS_IU_SEP_14RU1.exe
Symantec Endpoint Protection Intelligent Updater (Network Based Protection)	20190401-001-SONAR_IU_SEP.exe
Kiwi Syslog Log	9.6.7
Cerberus FTP	10.0.9 (64 bit)
WS-FTP Professional	12.7.0
Delkin USB Flash Drive	512 MB, 1GB, 2GB, 4GB, 8GB
Delkin CF Card	1GB
SanDisk CF Card	512MB, 1GB, 2GB
COTS Operating System	Microsoft Windows 7 64 bit SP1
COTS Operating system	Microsoft Server 2008 R2 SP1
WSUS Microsoft Windows Offline Update Utility	11.6.1
DS450 Report Printer	Dell S2810dn,OKI B432DN
DS850 Report Printer	OKI B431D, OKI B431DN, OKI B432DN
DS450\DS850 Audit Printer	OKI Microline 420
450 Uninterruptible Power Supply	APC Back UPS Pro 1500 or Smart PS 1500
850 Uninterruptible Power Supply	APC Back UPS RS 1500 or Pro 1500
Surge Suppressor	Tripp Lite Spike Cube
Delkin Compact Flash Memory Card Reader\Writer	6381
SanDisk compact Flash Memory Card Reader\Writer	018-6305

1.2 Application Review

The following items were received from ES&S and reviewed in accordance with Minnesota Rule 8220.0350:

A. A signed agreement that the vendor will pay all costs incurred by the secretary of state, its vendor, and any designees of the secretary of state in accomplishing the examination;
B. Complete specifications of all hardware, firmware, and software;
C. All technical manuals and documents related to the system;
D. Complete instructional materials necessary for the operation of the equipment by election jurisdictions and a description of any training available to users and purchasers;
E. A list of all state election authorities that have tested and approved the system for use;
F. A list of all election jurisdictions where the system has been used for elections;
G. A description of any support services offered by the vendor and of all peripheral equipment that can be used in conjunction with the system;
H. Recommended procedures for use of the system at Minnesota elections including procedures necessary to protect the integrity of the election;
I. Specifications for materials and supplies required to be used with the system;
J. Specifications for stickers for write-in votes that can be used with the system;
K. Explanation of the level of technical expertise required to program or prepare the system for use at an election; and
L. Certification by an independent testing authority approved by the secretary of state of conformance to standards for voting equipment issued by the Federal Election Commission.

1.3 Conclusion

Review of the application materials submitted for the EVS 5.3.4.1 Voting System indicates that they are complete and satisfy the requirements of Minnesota Rule 8220.0350.

EXHIBIT C

Section 2: System Demonstration

2.1 Overview

From Monday, January 27, 2020 to Thursday, January 30, 2020 the OSS hosted Mark Manganaro of ES&S, and the EVS 5.3.4.1 electronic voting system was demonstration tested. Simulated elections were conducted to demonstrate and test the EVS 5.3.4.1 electronic voting system. These simulations included a presidential nomination primary, a state primary, and a state general election. The state general election included a separate judicial ballot in keeping with M.S. 204D.11, subdivision 6 and M.R. 8250.0375 which permits use of a separate ballot for the judicial offices if it is not possible to place all offices on a single ballot for the state general election. Testing was designed to determine compliance with requirements of Minnesota Rules 8220.0450 and 8220.0750. The simulated elections involved ten test precincts, in order to thoroughly review the candidate rotation capability. Ballots for three of these precincts were printed by ES&S, then marked by the OSS, and used to test the voting equipment.

2.2 Testing Process

The OSS used predetermined results charts to mark test ballots using the AutoMARKs with the following configurations:

Configuration	Firmware Version	Hardware Version	*OS	**SBC	***PEB
AutoMARK (1)	1.8.6.1	A100 v. 1.0	5.00.20	1.0	1.70
AutoMARK (2)	1.8.6.1	A200 v. 1.1	5.00.20	2.0	1.70
AutoMARK (3)	1.8.6.1	A200 v. 1.3(0)	5.00.20	2.5	1.70
AutoMARK (4)	1.8.6.1	A300 v. 1.3(1)	5.00.20	2.5	1.70

*OS – Operating System
**SBC – Single Board Computer
***PEB – Printer Engine Board

The ballots marked by each of these configurations were included in the test decks that were then tabulated by the DS200 precinct count tabulator, the DS450 central count tabulator, and the DS850 central count tabulator. The DS200 was tested for tabulating both a single precinct and for tabulating multiple precincts. The EVS 5.3.4.1 voting system demonstrated that it could accurately count the ballots marked by hand and marked by the AutoMARK.

2.3 Notable Observations in Testing the Presidential Nomination Primary

This section of the report addresses the election configuration for a Presidential Nomination Primary. Unless stated otherwise in this report, the demonstration testing verified that EVS 5.3.4.1 accurately and correctly tabulated and reported results pursuant to Minnesota Statutes and Rules.

Minnesota now has four major parties: the Democratic-Farmer-Labor (DFL) Party, the Grassroots-Legalize Cannabis Party, the Legal Marijuana Now Party, and the Republican Party. Testing of the presidential nomination primary was expanded to include all four of Minnesota's major political parties.

In accordance with the process established for the presidential nomination primary in Minnesota Statutes section 207A.13, subdivision 1, separate PNP ballots were prepared and tested for each of these parties. M.S. 207A.13, subd. 1 (c) allows for each political party to decide if their presidential nomination primary ballot will contain an "uncommitted" choice and if it will include a "write-in" option. Pursuant to Minnesota Rule 8215.0200, subpart 4, the choice of "uncommitted", if requested by a party, is to be rotated as with other candidate names. As provided in M.S. 204B.36, "write-in" lines are to be printed below the name of the last candidate for the office. EVS 5.3.4.1 was tested with the DFL Party ballot having both an "uncommitted" choice and a "write-in" line, the Grassroots-Legalize Cannabis Party ballot with just a "write-in" line, the Legal Marijuana Now Party with only "uncommitted" and the Republican Party ballot having neither "uncommitted" or "write-in" to verify that all scenarios could be accurately prepared and tabulated. The ballots with both an "uncommitted" line and a "write-in" line were tested with the "write-in" line remaining fixed at the bottom of each ballot and the "uncommitted" line rotating with the candidate

names in keeping with election law and rules requirements. Other rotation arrangements are not addressed in this report and are not included in any certification recommendation.

In testing the presidential nomination primary, ballots from each party were marked using the AutoMARK. The device presents the voter with a graphic representation of the ballot and provides style and header information, as well as voting instructions. It was observed during testing that in order to provide all ballot style and header information, the AutoMARK presents the information on two separate screens. On the first screen, the voter is provided with the election title, county, precinct and the date. On the second screen, the voter is given the political party information. Given programming constraints, the political party is treated like an office, so the audio instructions provided to the voter include the language "there are no choices," after the political party name is read. When the voter navigates to the next screen, the U.S. President office and candidate choices are displayed. Because it was demonstrated that the AutoMARK could comply with the requirements in Minnesota Statutes and Rules this problem should not prevent the certification of the EVS 5.3.4.1 Voting System. To ensure ease of use, it is recommended that when programming the text to be read for the audio portion of the political party "office" screen, additional language be included that instructs voters how to move forward to the actual U.S. President office where candidates can be selected. Further, election judges could educate voters on this AutoMARK navigation step when the voter receives their ballot.

The presidential nomination primary ballots marked with the AutoMARK and by hand were then tabulated. To simulate actual polling place conditions, ballots from all parties were placed in the same ballot counter. The results tape demonstrated that it could accurately tabulate and report the totals of all major political parties as required by Minnesota law.

Section 3: Voting System Evaluation

The following system evaluation is divided into sub-sections, each addressing a set of requirements stipulated by Minnesota Statutes or Minnesota Rules. Within each sub-section, the main components of the EVS 5.3.4.1 Voting System are evaluated separately or as a unit where appropriate. The sub-sections are as follows:

Subsection 3.1 – Voting System Evaluation
Subsection 3.2 – Electronic Ballot Marker Evaluation: AutoMARK
Subsection 3.3 – Electronic Voting System Requirements
Subsection 3.4 – Computer Program Requirements
3.4.1 – Vote Tabulation Portion of the System's Requirements
3.4.2 – Ballot Conditions Requirements
Subsection 3.5 – Modem Function not included in this Certification

3.1 Voting System Evaluation

M.R. 8220.0450 Criterion	Demonstrated	NOT Demonstrated	Notes
Identify all hardware configurations with which software is intended to operate	✓		ES&S confirmed EVS 5.3.4.1 was the version being tested during the system demonstration. This was the same version as in their application and the same version tested by the independent testing authority, Pro V&V, Inc. This report relies on the certification finding of Pro V&V, Inc. in its testing of EVS 5.3.4.1, and does not extend to items not covered in those independent test lab certification results.

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M.R. 8220.0450 Criterion	Demonstrated	NOT Demonstrated	Notes
Demonstrate each hardware and software configuration for which certification was requested	✓		This report relies on the certification findings of Pro V&V, Inc. in its testing of EVS 5.3.4.1. This report does not extend to items not covered in the lab's certification results.
Storage Requirements (M.R. 8220.0450 (A))	✓		This report relies on the vendor-identified storage requirements and the findings of Pro V&V, Inc. in its testing of the EVS 5.3.4.1 Voting System. This report does not extend to items not covered in the test lab's certification results.
Programmable features and design specifications (M.R. 8220.0450 (D and E))	✓		Features and specifications were examined in the context of certification. This report relies on the findings of Pro V&V, Inc. in its testing of the EVS 5.3.4.1 Voting System. This report does not extend to items not covered in the test lab's certification results.
Maximum number of precincts, offices and issues, and candidates per office which can be handled (M.R. 8220.0450 (F))	✓		The system accommodated all precincts in the simulated presidential nomination primary, state primary, and state general election. This report relies on the vendor-identified capacities and the findings of Pro V&V, Inc. in its testing of the EVS 5.3.4.1 Voting System. This report does not extend to items not covered in the test lab's certification results.
Speed of operation under conditions that simulate scope and length of actual election ballots (M.R. 8220.0450 (B))	✓		Ballots of three sizes were tested during the simulated presidential nomination primary, state primary, and state general election. Single sided 8.5" x 11" ballots were used for the "Presidential Nomination Primary Ballot". Double sided 8.5" x 14" ballots were used for the "State Primary Ballot". Double sided 8.5" x 17" ballots were used for the "State General Election Ballot", and single sided 8.5" x 17" ballots were used for the "Judicial Nonpartisan State General Election Ballot". Each set of ballots were programmed with races consistent with that type of election. Ballots were processed in a reasonable amount of time.
Simulation of vote counting involving a configuration of the largest number of voters, precincts, offices, and candidates with which system expected to be used. (M.R. 8220.0450 (H)	✓		The simulated presidential nomination primary, state primary, and state general election included contests and candidates consistent with elections of these types. Ten precincts were programmed. During the simulation demonstration, OSS tested three of these precincts. A test deck was prepared for each precinct based upon a pre-determined results chart. These tests incorporated ballots marked with the AutoMARK electronic ballot marker. Those ballots along with hand marked ballots were then scanned and counted by the DS200, DS450 and DS850.
Simulation of vote counting includes ballots showing in many different combinations: overvotes; undervotes; invalid votes; no overvotes or stray marks (M.R. 8220.0450 (H))	✓		The predetermined results chart for each test precinct included numerous vote combinations with overvotes, undervotes, cross party votes (on state primary ballots), blank ballots, stray marks, and valid votes.

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M.R. 8220.0450 Criterion	Demonstrated	NOT Demonstrated	Notes
Demonstrated rotation sequences (M.R. 8220.0450 (H))	✓		The ten test precincts allowed for a thorough review of candidate rotation capability. Ballots for three of these precincts were printed by ES&S, then marked by the OSS and used to test the voting equipment. The ballot rotation sequence matched the order of offices and candidates within the assistive voting technology programming and also matched the order on the necessary tabulator-generated reports. As noted in Section 2 above, EVS 5.3.4.1 has the capability to rotate the "Uncommitted" line on presidential nomination primary ballots, as is required by M.R. 8215.0200.
Demonstrated the ability to count votes cast on partisan, nonpartisan, and proposal sections of ballot independently (M.R. 8220.0450 (H))	✓		The DS200 tabulator (as both a precinct ballot counter and central count tabulator) and the DS450 and DS850 central count scanners/tabulators demonstrated that they could count votes cast in the nonpartisan and proposal sections of the ballot while not counting votes on the partisan section when cross party votes were present. See Sections 3.4.1 and 3.4.2 below for further details.
Provisions for write-in votes when authorized (M.R. 8220.0450 (K)	✓		Write-in voting is allowed at the presidential nomination primary when authorized by a political party and at the general election. When using the AutoMARK, and a voter marks a write-in target, a write-in session is initiated. When the voter begins the write-in session, instructions are presented which detail how to use the on-screen keyboard. Using the alpha ordered keyboard, voters select letters individually to spell out the name of their candidate choice. When the write-in candidate is entered, the name is read back to the voter by spelling it. The write-in function allows the voter to back out and select another candidate (one listed on the ballot), if they choose. Test presidential nomination primary ballots where a write-in line was provided (DFL and Grassroots-Legalize Cannabis) and general election ballots with targets marked for write-in candidates either by hand or with the assistance of the AutoMARK were counted as write-in votes by the DS200, DS450, and DS850.
Showed full audit capability, with an audit trail (M.R. 8220.0450 (C))	✓		Electronic Ballot Marker: The marked optical scan ballot is the audit trail which provides full audit capability. Tabulators: Produce audit reports
Audit trail includes a printout of overvotes and undervotes for each office and issue, and with the undervotes recorded directly from the ballots and not determined by subtraction of totals from ballots that were not overvoted (M.R. 8220.0450 (C))	✓		Electronic Ballot Marker: The AutoMARK does not count votes, so a report is not available. The electronic ballot marker does not allow the overvoting of an office. When an office is not fully voted, the voter receives a warning of the presence of an undervote. Tabulators: Provides a report print out of vote totals including overvotes and undervotes on both the zero report and results report. Ballots were marked according to the pre-determined results chart and the resulting report printout matches the expected results.

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M.R. 8220.0450 Criterion	Demonstrated	NOT Demonstrated	Notes
Production of reports which include vote totals and all statistics and other information required by Secretary of State (M.R. 8220.0450 (G))	✓		The DS200, DS450, and DS850 tabulators provide a printout of the vote totals for all candidates – including write-ins when applicable – and for all ballot questions. The System also provided a printout of overvotes, undervotes and total votes for office.
Demonstrated vote counting accuracy (M.R. 8220.0450 (I)	✓		The results reports from the DS200, DS450, and DS850 respectively were compared to the results chart for each precinct. The reports matched the expected results.
Demonstrated procedures or process for testing accuracy (M.R. 8220.0450 (I)	✓		This report relies on the certification finding of Pro V&V, Inc. in its testing of EVS 5.3.4.1. This report does not extend to items not covered in those independent test lab certification results.
Provisions for maintaining the security and integrity of elections (M.R. 8220.0450 (J))	✓		The EVS 5.3.4.1 Voting System includes multiple security elements, including physical keys, passwords, and audits. A key and password system is used for access and administration functions. A unique password is used for each election so that the equipment and Election Reporting Manager (ERM) all need to recognize that password before performing their election functions. Memory cards are protected by locked compartments, which are key-access only. Seals and tamper-evident tape can be affixed to the equipment for security. All styles of ballot box used with the DS200 use a key access system so election officials can keep the system secure on Election Day.

3.2 Electronic Ballot Marker Evaluation: AutoMARK

Minnesota Statutes section 206.57 requires that a "voting method used in each polling place must include a voting system that is accessible for individuals with disabilities, including nonvisual accessibility for the blind and visually impaired in a manner that provides the same opportunity for access and participation, including privacy and independence, as for other voters." ES&S presented the AutoMARK as the assistive voting device used with the EVS 5.3.4.1 voting system to meet the requirements in Minnesota Statutes section 206.57.

The AutoMARK is a standalone precinct level ballot marking device for optical scan paper ballots. Voters insert their ballot into the AutoMARK and the device assists voters in marking their vote selections. When all desired selections have been made, the AutoMARK prints the voter's choices for each contest onto the paper optical scan ballot. The four different configurations of the AutoMARK listed in section 2.2 of this report were tested. Unless specifically stated otherwise, the following results refer to all four of the different configurations of the AutoMARK with firmware.

The AutoMARK assistive voting device is subject to the following requirements:

M.S. 206.56 Criterion	Demonstrated	NOT Demonstrated	Notes

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M.S. 206.56 Criterion	Demonstrated	NOT Demonstrated	Notes
Marks a paper optical scan ballot (M.S. 206.56, subd. 7b)	✓		The AutoMARK includes both a digital display of the ballot and an audio reader. As described above, the AutoMARK marks an optical scan ballot with the voter's selections, which can then be deposited into the tabulator. OSS Observation: The vote target displayed by the AutoMARK is a square rather than an oval. When using the AutoMARK, a voter's selections are denoted by a checkmark  in the square target, rather than a filled-in oval. However, when the selections are marked on the paper ballot, the AutoMARK fills in the oval target. In a previous certification the following alternate language was approved for use on the AutoMARK: "Your selection will be highlighted in yellow with a green checkmark indicating your selection." This language would meet the requirements. In this certification as well.
Includes Assistive Technology (M.S. 206.56, subd. 1a)	✓		The AutoMARK includes a touch-screen and navigation buttons as well as ports that allow a sip-and-puff input device to be plugged in and utilized. The AutoMARK also includes headphones (earphones) through which the voter can listen to audio instructions and ballot information. *Denotes an item that is not required
Touch Activated Screen	✓		
Buttons	✓		
Keypad	✓		
Sip-and-puff input device	✓		
Keyboard*		✓	
Earphone	✓		
Other	✓		
Uses electronic display to present graphic representation of ballot on monitor or screen (M.S. 206.56, subd. 7a)	✓		The AutoMARK presents a graphic representation of a voter's ballot. The voter can adjust the digital display to better meet their visual needs using the AutoMARK's zoom and contrast features. The voter can view the ballot with small, normal or large text. They can set the display to be high contrast white, or high contrast black.
Is capable of reading ballot information to voter (M.S. 206.56, subd. 1b)	✓		The AutoMARK's audio function allows the voter to listen to voting instructions and office/candidate choices through headphones. Voters have the option to turn off the display screen and navigate their ballot and make their selections using only the audio instructions. A ballot from each of the three test precincts was properly marked using this audio-only function. It was observed that the language of the instructions was not an exact match to the language in Minnesota Rules. However, the capability exists to program audio voting instructions and the digital representation to match instructions required by M.R. 8220.2860.

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3.3 Electronic Voting System Requirements

As an electronic voting system, EVS 5.3.4.1 must meet the following requirements as stipulated by Minnesota Statutes section 206.80 and Minnesota Rules section 8220.2050 in order to be used in the state. The EVS 5.3.4.1 voting system includes the AutoMARK (electronic ballot marker) and three tabulators: the DS200 precinct count tabulator and the DS450 and DS850 central count tabulators. Where differences exist between the DS200, DS450, and DS850 each piece of equipment is evaluated separately. Where observations were identical, a single evaluation is provided. The System must:

M.S. 206.80 and M.R. 8220.2050 Criterion:	Demonstrated	NOT Demonstrated	Notes
Have no physical connection between the voting system and any other computer during hours that voting occurs (M.R. 8220.2050)	✓		Electronic Ballot Marker: The AutoMARK demonstrated that it could stand alone and produce a ballot marked with the voter's selections without being connected to another computer system. Tabulators: The DS200, DS450 and DS850 demonstrated that they could stand alone and tabulate results correctly without being connected to another computer system.
Permit every voter to vote in secret; and when at a primary election to select secretly the party the voter wishes to vote for (M.S. 206.80, (a) (1 and 5))	✓		Electronic Ballot Marker: In the polling place, the AutoMARK is set up in a voting booth which creates a private space for the voter to make their selections. The device's audio feature can only be heard through headphones – nothing is heard publicly. It is also possible to turn off the device's display screen, so that only the audio is used to navigate the ballot and make selections. In order to maintain secrecy after ballot marking is complete and the selections have been specified on the optical scan ballot, the ballot may be inserted into a privacy sleeve as it is transported to the tabulator. Tabulators: DS200: When a ballot is inserted into the tabulator, the votes marked on the ballot are not displayed on the communication screen. When an error such as an overvote exists, the screen will display the name or the office with the error type, keeping the voter's selection private. For example, "You filled in too many ovals in 3 contests. These votes will not count. In the contest for _____; You Chose 2 candidates; You are allowed 1. In the contest for _____; You chose 2 candidates; You are allowed 1. In the contest for: School Board Member ISD ___; you chose 5 candidates; You are allowed 4." DS450 and DS850: The DS450 is designed to process mail and absentee ballots. Voters have marked these ballots in the privacy of their own home and returned them to the designated election office. When processing mail and absentee returns, the ballots have been separated from any materials that could be linked back to an individual voter, providing anonymity.
			Electronic Ballot Marker: The AutoMARK was used to mark selections on optical scan ballots from each of the three precincts tested. The offices, candidates and their order and questions displayed on the

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M.S. 206.80 and M.R. 8220.2050 Criterion:	Demonstrated	NOT Demonstrated	Notes
Permit every voter to vote for all candidates and questions for whom or upon which they are legally entitled (M.S. 206.80, (a) (2))	✓		device's screen for each precinct matched those on each precinct's paper optical scan ballot. Tabulators: Test ballots were marked according to a predetermined set of results. These prearranged results included votes for all candidates and questions on the ballot in a variety of combinations. Each tabulator's results report matched the results chart.
Provide for write-in voting when authorized (M.S. 206.80(a) (3))	✓		Electronic Ballot Marker: When a voter marks a write-in target, a keyboard listing the alphabet is displayed. The AutoMARK keyboard is in alpha-order. Using the keyboard, the voter selects the letters that spell the name of their candidate choice. When the write-in candidate is entered, the name is read back to the voter by spelling it out. The write-in function allows the voter to back out and select another candidate (one listed on the ballot), if they choose. Tabulators: Test ballots from this election with write-in ovals marked either by hand, or by the AutoMark were counted as write-in votes by the tabulators. Note: Write-in voting is authorized in the presidential nomination primary when permitted by a given political party and in general elections.
Accept and tabulate –or- create a marked optical scan ballot (M.S. 206.80, (b) (1 and 2))	✓		Electronic Ballot Marker: The AutoMARK was used to mark paper optical scan ballots for the test presidential nomination primary, state primary and state general election. These ballots were then included in the test decks used to test the DS200, DS450, and DS850. Ballots marked by the AutoMARK were accurately counted by each tabulator type. *OSS Observation:* The vote target shape used by EVS 5.3.4.1 is a square rather than an oval. When using the AutoMARK, the voter makes their selections and the square target is marked with a checkmark ☑ rather than a filled in oval or square ■. However, when the optical scan ballot is printed, an oval is filled in. Tabulators: The DS200, DS450, and DS850 accepted and accurately tabulated marked optical scan ballots in single precinct and multiple precinct scenarios. Each ballot counter tabulated ballots marked using the AutoMARK as well as by hand.
Allow voter to verify votes recorded on permanent paper ballot visually or using assistive voting technology before voter's ballot is cast and counted (M.S. 206.80, (a) (7))	✓		Electronic Ballot Marker: The AutoMARK provides a summary screen of the contests on the ballot and the selections made within each contest. This screen allows the voter a final review prior to the marking of their selections on the paper optical scan ballot. The voter also has the ability to modify their selections if they so choose. In addition, once the optical scan ballot is marked by the AutoMARK, the voter can visually inspect the ballot prior to inserting it into the tabulator. Finally, with the exception of configuration 1 (firmware

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M.S. 206.80 and M.R. 8220.2050 Criterion:	Demonstrated	NOT Demonstrated	Notes
			version 1.8.6.1, hardware version A100 v 1.0), the AutoMARK has the ability to review the votes made on a marked optical scan ballot. The AutoMARK with configuration 1 does not have the ability to "read" a previously marked ballot to the voter. With AutoMARK configurations 2-4, a voter can, if desired, insert a ballot containing voted contests into the AutoMARK, and the device will review the selections made on the ballot. Tabulators: An actual paper ballot is cast enabling voters to visually verify their votes prior casting their ballot (in the case of regular polling place voters) or returning their ballot (in the case of absentee/mail voters). The DS200 detects and returns without counting any ballots with overvotes and/or cross party votes (in the case of partisan primaries). When a ballot with errors is inserted into the tabulator, the voter cannot proceed until they actively decide to correct the errors or cast the ballot with the errors. These paper optical scan ballots are preserved for use in possible recount.
Allow voter to change votes or correct any error before voter's permanent paper ballot is cast and counted (M.S. 206.80, (a) (7))	✓		Electronic Ballot Marker: A voter can change their vote selections on the AutoMARK during the review process prior to the printing of the paper ballot with their choices. Once the paper optical scan ballot has been printed with the choices, a voter could request to spoil their current ballot and vote a new ballot if they discover upon visual inspection (or re-inserting their ballot into the device for review), they have selected a candidate in error. Tabulators: DS200: The tabulator detects and returns without counting any ballots with overvotes or cross party votes (in the case of partisan primaries). When a ballot with errors is inserted into the tabulator, the voter cannot proceed until they actively decide to correct the errors or cast the ballot as is with errors. The paper ballots are preserved for use in possible recount. DS450 and DS850: An actual paper ballot is cast, so voters can visually verify their votes prior to returning their ballot to the election office. These paper optical scan ballots are preserved for use in possible recount.
Produce an individual, permanent paper ballot cast by the voter and preserves the ballot as part of official record available for use in any recount (M.S. 206.80, (a) (7))	✓		The System marks and tabulates paper optical scan ballots. Once cast, the ballots themselves are preserved as part of the official record and are available for use in recount if necessary.
Be set up so that vote-tallying procedures function			

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M.S. 206.80 and M.R. 8220.2050 Criterion:	Demonstrated	NOT Demonstrated	Notes
in isolation…no physical connection exists between the voting system and any other computer while system is tabulating results for a precinct (M.R. 8220.2050)	✓		Electronic Ballot Marker: The AutoMARK demonstrated that it can mark an optical scan ballot without being connected to another computer system. Tabulators: The tabulators each demonstrated that they can standalone and perform correctly without being connected to another computer system.

3.4 Computer Program Requirements

Pursuant to Minnesota Rule 8220.0750, the voting system's computer programs used to tabulate results must meet specific requirements. Related requirements are also stipulated in Minnesota Rule 8230.4355.

The EVS 5.3.4.1 voting system includes three tabulators, the DS200 precinct count tabulator and the DS450 and DS850 central count tabulators. Where differences exist between the DS200, DS450, and DS850 each piece of equipment is evaluated separately. Where observations were identical, a single evaluation is provided.

3.4.1 Vote Tabulation Portion of the System Requirement

The vote tabulation portion of the System's computer program must:

M.R. 8230.4355 Criterion:	Demonstrated	NOT Demonstrated	Notes
Tabulate each voter's choices for all candidates, offices and measures for which voter is legally entitled to vote (M.R. 8220.0750)	✓		Tabulators: The simulated elections were conducted using ballots marked with predetermined sets of votes and comparing the tabulator results reports with the expected totals. The test decks were set up to include votes for all candidates, offices and questions. The results reports for each tabulator matched the totals expected.
Require an electronically readable precinct identifier or ballot style indicator on all ballots. (M.R. 8220.0750)	✓		Tabulators: Results reports from the DS200, DS450, and DS850 respectively confirmed that the paper optical scan ballots from each test precinct had a unique electronically readable identifier, because when multi-precinct tests were conducted, the individual totals for each precinct were accurately reported on the tabulator printout.

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M.R. 8230.4355 Criterion:	Demonstrated	NOT Demonstrated	Notes
Reflect the rotation sequence of the candidate's names as they appear on the ballots in various precincts (M.R. 8220.0750 (A))	✓		Tabulators: DS200: The order of candidate names on the results reports matched the rotation sequence in all test precincts in the simulated presidential primary, state primary and state general election. The DS200 results tape correctly reported candidate vote totals where rotation sequences were present. DS450 and DS850: The order of candidate names on the results report is in base rotation order. However, the DS450 and the DS850 correctly reported candidate vote totals where rotation sequences were present.
Reflect the offices and questions to be voted on in the order that they appear on the ballots in the various precincts (M.R. 8220.0750 (B))	✓		Tabulators: The order of offices and questions in the computer program for the three test precincts was an exact match for how they appear on the ballots in each precinct.
Treat the partisan, nonpartisan, and proposal sections of the ballot as independent ballots. (No action of a voter on one section of the ballot should affect the voter's action on another section of the ballot.) (M.R. 8220.0750 (G))	✓		Tabulators: Each precinct's results chart contained scenarios where there were overvotes on one section of the ballot while other sections were correctly voted. The scenarios were marked on the test ballots. During tabulation by the DS200, DS450 and DS850, the portion of the ballot that were voted correctly were not affected by overvotes on other parts of the ballot.
With regard to write-in voting:			
Record the total number of write-ins recorded by office (M.R. 8220.0750 (K))	✓		Tabulators: Write-in voting is permitted at the presidential nomination primary where authorized by a political party and at the general election. At elections (or individual ballots) where write-in voting is permitted, the DS200, DS450, and DS850 tabulated write-in votes marked manually or with assistance of the AutoMARK. The results printout shows the total number of write-in votes recorded for each office.

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M.R. 8230.4355 Criterion:	Demonstrated	NOT Demonstrated	Notes
Count and record valid votes on the ballot for all races before a ballot with a write-in recorded is separated from ballots with no write-ins recorded (M.R. 8220.0750 (K))	✓		Tabulators: The tabulated test results indicate this criterion was met. The pre-determined results charts included the following scenarios: 1) One ballot had two write-in votes in a multiple seat race. 2) One ballot had a write-in and another vote in the same race where there was only one seat available. In each case, review of the results found the race was correctly counted. The first counted as a vote for each selected candidate, the second counted as an overvote. Per M.S. 206.57, subdivision 8, separation of write-ins is no longer a requirement.
Ballot box used with precinct count system may have two separate compartment OR a single compartment in which equipment can feed ballot (M.R. 8230.4355)	✓		Tabulators: DS200: Minnesota Laws 2013, Chapter 131, Article 2 was amended Minnesota Statutes section, 206.57, subdivision 8 to state, "notwithstanding Minnesota Rules 8230.4355, ballot boxes used with precinct count voting systems are not required to contain two separate compartments to receive ballots." The DS200 is the EVS 5.3.4.1 Voting System's precinct ballot counter. OSS staff tested the DS200 together with three different ballot box types: (1) a metal ballot box with two compartments and diverter, (2) plastic ballot box with a single compartment and no diverter, (3) a collapsible plastic ballot box with no diverter. The metal ballot box has the ability to hold ballots without write-ins in one compartment while separating all ballots with one or more write-in ovals marked to be diverted into a separate compartment. DS450 and DS850: As central count ballot counters, this requirement is not applicable to the DS450 and the DS850. Moreover, M.S. 206.57 was changed in 2013 to state "notwithstanding Minnesota Rules 8230.4355, ballot boxes used with precinct count voting systems are not required to contain two separate compartments to receive ballots."

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M.R. 8230.4355 Criterion:	Demonstrated	NOT Demonstrated	Notes
When ballot box has two separate compartments, one compartment receives ballots on which write-in votes have been marked; the other receives ballots with no write-in votes marked (M.R. 8230.4355)	✓		Tabulators: DS200: Minnesota Laws 2013, Chapter 131, Article 2 changed Minnesota Statutes section, 206.57, subdivision 8 to state, "notwithstanding Minnesota Rules 8230.4355, ballot boxes used with precinct count voting systems are not required to contain two separate compartments to receive ballots." staff tested the DS200 together with three different ballot box types: (1) a metal ballot box with two compartments and diverter, (2) plastic ballot box with a single compartment and no diverter, (3) collapsible plastic ballot box with no diverter. DS450 and DS850: As central count tabulators, this requirement is not applicable to the DS450 or the DS850. Moreover, M.S. 206.57 was changed in 2013 to state "notwithstanding Minnesota Rules 8230.4355, ballot boxes used with precinct count voting systems are not required to contain two separate compartments to receive ballots."

3.4.2 Ballot Conditions Requirements

In addition, the vote tabulation portion of the System's computer program must perform as indicated when the ballot conditions detailed below are encountered:

Note: ▒▒ indicates non-applicable.

Ballot Conditions	System Must:				During System Demonstration, Requirements were:		
	Provide Error Message Electronically or printed on Tape	Count, if cast	Not Count, if Cast	Otherwise Record, if cast	Demonstrated	NOT Demonstrated	Notes (Including Error Message when applicable)
Partisan primary ballot with votes for candidates in one political party only. (M.R. 8220.0750 (H))	▒▒		▒▒	▒▒	✓		

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Ballot Conditions	System Must:				During System Demonstration, Requirements were:		
	Provide Error Message Electronically or printed on Tape	Count, if cast	Not Count, if Cast	Otherwise Record, if cast	Demonstrated	NOT Demonstrated	Notes (Including Error Message when applicable)
Valid votes for or against any question. (M.R. 8220.0750 (D))					✓		
Overvoted office or question; including overvoted office with write-in candidate(s) marked (M.S. 206.80 (a)(4), M.R. 8220.0750 (E,J, and K))					✓		DS200: Correctly detected when more votes were cast than were allowed for an office or for a question, including when one of the votes marked was for a write-in candidate. The DS200 did not immediately accept the ballot for tabulation, rather the machine provided a warning to the voter and the opportunity to correct the ballot. When the ballot was tabulated, the results printout did not record any votes for the candidates, but did record the overvote for that particular race. DS200 Message: "Your ballot may not be properly marked." "United States President and Vice President" Too many choices are marked. This contest will not be counted." "To make changes pull the ballot-or- To cast your ballot as-is, contact a poll worker." (in the left hand column) "Make changes or cast the ballot as is. There is 1 incorrectly marked contest. To make a change pull your ballot out of the machine, you can request a replacement ballot from a poll worker." DS450 and DS850: When the ballot is tabulated, the results printout did not record any votes for the candidates, but did record the overvote for that particular race.
Stray Marks (M.R. 8220.0750 (F))					✓		In compliance with voting equipment testing procedures, all test ballots were sequentially numbered with ink pens prior to testing. These markings were ignored both during assistive voting sessions and during tabulation.

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Ballot Conditions	System Must:				During System Demonstration, Requirements were:		
	Provide Error Message Electronically or printed on Tape	Count, if cast	Not Count, if Cast	d,	Demonstrated	NOT Demonstrated	Notes (Including Error Message when applicable)
Partisan primary ballot with votes for candidates in one political party only (M.R. 8220.0750 (H))					✓		Electronic Ballot Marker: Test ballots for the simulation state primary were marked to create the scenario where a voter voted for candidates of one political party only. Tabulators: The DS200, DS450 and DS850 ballot tabulators accurately counted these as valid votes.
Partisan Primary ballot with cross-party votes in partisan section (M.R. 8220.0750 (H))					✓		Electronic Ballot Marker: The AutoMARK did not allow a voter to cross-party vote on a ballot. Tabulators: DS200: Test ballots for the simulation partisan primary were hand marked to create the scenario of votes for candidates of more than one political party. The DS200 warned the voter that there was a cross-party vote. The voter may then decide to cast their ballot as is or to pull the ballot, alert an election judge that they would like to spoil their current ballot, and then receive a new ballot. If they cast the ballot as is no votes are counted on the partisan side of the ballot. DS450 and DS850: The ballots cast with votes for candidates of more than one political party resulted in no votes being counted on the partisan side of the ballot.

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Ballot Conditions	System Must:				During System Demonstration, Requirements were:		
	Provide Error Message Electronically or printed on Tape	Count, if cast	Not Count, if Cast	Otherwise Record, if cast	Demonstrated	NOT Demonstrated	Notes (Including Error Message when applicable)
Partisan Primary Ballot with cross-party votes in partisan section and valid votes in nonpartisan section (M.R. 8220.0750 (H))		Non Partisan section	Partisan section		✓		Electronic Ballot Marker: The AutoMARK will not allow a crossover vote to be marked on a ballot. Tabulators: DS200: Test ballots for the simulation state primary were hand marked with cross-over votes on the partisan section and with valid votes on the nonpartisan section. When the ballots were placed in the tabulator a message appeared warning the voter that they had voted in contests from more than one political party and that they were allowed to vote in contests from only one political party. The voter then must decide to cast their ballot as is or to pull the ballot, alert an election judge that they would like to spoil their current ballot, and then receive a new ballot. DS450 and DS850: The ballots cast with votes for candidates of more than one political party resulted in no votes being counted on the partisan side of the ballot. However, the valid votes on the nonpartisan side of the ballot were counted.

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Ballot Conditions	System Must:				During System Demonstration, Requirements were:		
	Provide Error Message Electronically or printed on Tape	Count, if cast	Not Count, if Cast	Otherwise Record, if cast	Demonstrated	NOT Demonstrated	Notes (Including Error Message when applicable)
Partisan Primary ballot with cross-party votes and overvotes. (M.R. 8220.0750 (I))	Checks first for cross-party, then for overvotes (or both at same time)				✓		Tabulators: DS200: State Primary test ballots were marked to include both cross-party votes and overvotes. The DS200 detected both errors without counting the ballots. The DS200 warns the voter of both the cross-party vote and the overvotes. The voter may then decide to cast their ballot as is or to pull the ballot, alert an election judge that they would like to spoil their current ballot, and then receive a new ballot. DS450 and DS850: DS450 and DS850 recognized cross party and overvotes and did not have the partisan section or overvoted race tabulated. The presence of the overvote was printed on the results tape for the affected office.

3.5 Modem Function not included in this Certification

This Certification Report, as in previous reports, does not cover any of the modeming functions of the EVS 5.3.4.1 Voting System. However, the testing process did demonstrate that when the polls are closed on the DS200s, the results tape is printed prior to the system presenting an option to transmit results via modem.

Section 4: Certification Conclusion

The OSS Certification Team of Brad Anderson, Adam Aanerud, Stella Hegg, Christine Nelson, and Julia Laden of the OSS Elections Division, examined the EVS 5.3.4.1 from Monday, January 27, 2020 to Thursday, January 30, 2020. The EVS 5.3.4.1 Voting System as tested included the following components:

Software:	Version
ElectionWare	4.7.6.0
Election Reporting Manager	8.12.1.6
Event Log Service	1.5.5.0
Removable Media Service	1.4.5.0
VAT Previewer	1.8.6.1

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Hardware:	Firmware Version	Hardware Version	OS	SBC	PEB
AutoMARK VAT (1)	1.8.6.1	A100 v. 1.0	5.00.20	1.0	1.70
AutoMARK VAT (2)	1.8.6.1	A200 v. 1.1	5.00.20	2.0	1.70
AutoMARK VAT (3)	1.8.6.1	A200 v. 1.3	5.00.20	2.5	1.70
AutoMARK VAT (4)	1.8.6.1	A300 v. 1.3.1	5.00.20	2.5	1.70
DS200	2.12.6.0	1.2, 1.3, 1.3.11			
Plastic Ballot Box with Tote Bin	N/A	1.2, 1.3, 1.4, 1.5			
Collapsible Ballot Box	NA	1.0, 1.1			
Metal Ballot Box w/Diverter	NA	1.0, 1.1, 1.2			
DS450	3.0.2.0				
DS850	2.10.4.0				

COTS:	Version
Adobe Acrobat	XI
Cisco 5505 ASA	9.1.7
Cisco 5506-X ASA	9.9.2
Micro Focus RM/COBOL Runtime	12.06
Microsoft.NET	3.5
Visual C++ Redistributable	vcredist_x86.exe
Symantec Endpoint Protection	20190404-001-core15sdsv5i64.exe

COTS:	Version
Symantec Endpoint Protection Intelligent Updater (File Based Protection)	20190403-061-1PS_IU_SEP_14RU1.exe
Symantec Endpoint Protection Intelligent Updater (Network Based Protection)	20190401-001-SONAR_IU_SEP.exe
Kiwi Syslog Log	9.6.7
Cerberus FTP	10.0.9 (64 bit)
WS-FTP Professional	12.7.0
Delkin USB Flash Drive	512 MB, 1GB, 2GB, 4GB, 8GB
Delkin CF Card	1GB
SanDisk CF Card	512MB, 1GB, 2GB
COTS Operating System	Microsoft Windows 7 64 bit SP1
COTS Operating system	Microsoft Server 2008 R2 SP1
WSUS Microsoft Windows Offline Update Utility	11.6.1
DS450 Report Printer	Dell S2810dn,OKI B432DN
DS850 Report Printer	OKI B431D, OKI B431DN, OKI B432DN
DS450\DS850 Audit Printer	OKI Microline 420
450 Uninterruptible Power Supply	APC Back UPS Pro 1500 or Smart PS 1500
850 Uninterruptible Power Supply	APC Back UPS RS 1500 or Pro 1500
Surge Suppressor	Tripp Lite Spike Cube
Delkin Compact Flash Memory Card Reader\Writer	6381
SanDisk compact Flash Memory Card Reader\Writer	018-6305

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The EVS 5.3.4.1 was tested by Pro V&V, Inc. (Pro V&V), an independent testing authority, and Pro V&V determined that: "the EVS 5.3.4.1, as presented for testing, successfully met the requirements set forth for voting systems in the U.S. Election Assistance Commission (EAC) 2005 Voluntary Voting System Guidelines (VVSG), Version 1.0, with no deficiencies or anomalies noted during testing. Additionally Pro V&V, Inc. has determined that the EVS 5.3.4.1 functioned as a complete system during System Integration Testing."

The OSS in this certification report relies on the results of the July 2, 2019 "Pro V&V Test Report for Elections Systems and Software (ES&S) Voting System (EVS) 5.3.4.1 Certification Testing" (EVS 5.3.4.1 Test Report) in reaching its certification conclusion. Based upon the results of OSS certification testing as reported above, and in reliance upon the independent testing authority certification results of PRO V&V, INC. regarding the EVS 5.3.4.1 Voting System, measured to the 2005 VVSG, we conclude that EVS 5.3.4.1 complies with the requirements of Minnesota Statutes sections 206.55 to 206.90 and certification is recommended subject to the following limitation:

1) All AutoMARK VATs that display squares rather than ovals and indicate selections by a check mark rather than a filled in oval must display the following description: "Your selection will be highlighted in yellow with a green checkmark indicating your selection."
2) This report does not cover any modeming functions that may be related to EVS 5.3.4.1.

OSS Election Equipment Certification Team:

S\ Brad Anderson	April 21, 2020
Brad Anderson	Date
S\ Adam Aanerud	April 23, 2020
Adam Aanerud	Date
S\Stella Hegg	April 21, 2020
Stella Hegg	Date
S\Christine Nelson	April 23, 2020
Christine Nelson	Date
S\Julia Laden	April 23, 2020
Julia Laden	Date

EXHIBIT C

Office of the Minnesota Secretary of State

Rice County's Electronic Voting System Plan (Revised for 2022)

I. Basis of Plan

Minn. Stat. § 206.82, subdivision 2, provides that the municipal clerk in a municipality where an electronic voting system is used and the county auditor of a county in which an electronic voting system is used in more than one municipality and the county auditor of a county in which a counting center serving more than one municipality is located shall prepare a plan which indicates acquisition of sufficient facilities, computer time, and professional services and which describes the proposed manner of complying with section 206.80. The plan must be signed, notarized, and submitted to the secretary of state more than 60 days before the first election at which the municipality uses an electronic voting system. Prior to July 1 of each subsequent general election year, the clerk or auditor shall submit to the secretary of state notification of any changes to the plan on file with the secretary of state. The secretary of state shall review each plan for its sufficiency and may request technical assistance from the Department of Administration or other agency which may be operating as the central computer authority. The secretary of state shall notify each reporting authority of the sufficiency or insufficiency of its plan within 20 days of receipt of the plan. The attorney general, upon request of the secretary of state, may seek a district court order requiring an election official to fulfill duties imposed by this subdivision or by rules promulgated pursuant to this section. This requirement is waived in calendar year 2006 for municipalities with fewer than 10,000 residents.

Minnesota Laws 2006, chapter 242, sec. 31, amends Minn. Stat. §206.80 to read:

> (b) An electronic voting system purchased on or after June 4, 2005, may not be employed unless it:
>
> (1) Accepts and tabulates, in the polling place or at a counting center, a marked optical scan ballot;
>
> (2) Creates a marked optical scan ballot that can be tabulated in the polling place or at a counting center by automatic tabulating equipment certified for use in this state.

II. The County of Rice certifies that it will use electronic voting systems including ballot marking and tabulating machines and electronic rosters certified for use in Minnesota and meeting the requirements of Minnesota Statutes §206.80, as listed on the table attached as Appendix A.

III. The County of Rice plans to meet the additional requirements of M.S. §206.82, subd. 1 in the following manner:

1. Acquire sufficient facilities for implementation of the electronic voting system as follows: Rice County will provide for the storage of all electronic voting equipment (ES&S AutoMarks, ES&S DS200s, Democracy Live OmniBallots, ES&S DS450 and KNOWiNK Electronic Poll Pads) to be used in Rice County at a secure site. A DS450 Central Count Tabulator will be used at the Rice County Government Services Building to tabulate accepted absentee ballots. A DS200 will be used in the Rice County Government Services Building and at the Northfield City Hall Absentee Ballot Location for Direct Balloting seven days prior to the Presidential Primary, Primary and General Elections. Each jurisdiction will be responsible for the storage of their DS200 ballot boxes and the tables for their AutoMark/OmniBallot machines. Each jurisdiction will be responsible for securing their electronic voting equipment from the County and for transport and set-up of their respective polling places for Elections.

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2. Acquire sufficient computer time for implementation of the electronic voting system as follows: Rice County contracts with SeaChange and Election Systems and Software (ES&S) for ballots, programming, and maintenance of the electronic equipment. Rice County contracts with KNOWiNK for programming of the electronic poll pads. Rice County IT staff is available to assist with technical problems that may arise. Rice County owns all of its elections equipment and has immediate, unlimited access of same for implementation.

3. Acquire sufficient professional services for implementation of the electronic voting system as follows: Sea Change and ES&S are responsible for ballot printing and programming. ES&S will maintain the voting equipment. ES&S will provide special training on all voting equipment to county staff and city, township, and school election officials as needed. KNOWiNK is responsible for the programming of the electronic poll pads and will provide training to staff. Rice County Property Tax & Elections staff, with KNOWiNK's assistance, is responsible for poll pad set-up and configuration. Rice County Property Tax & Elections staff will provide training to other election administrators and judges. On-call software and hardware support is secured through the contracts.

4. Have a test deck prepared by a competent person for use to independently verify the program as follows: Rice County Property Tax & Elections staff will be responsible for all preliminary testing for the precincts in Rice County. Rice County Property Tax & Elections staff and/or our vendor will create the Predetermined Results Charts and mark all test ballots for all jurisdictions and all ballot styles in Rice County. Both the original and duplicate back-up programs will be tested for each precinct in Rice County using a checklist developed by the Elections Director. These test decks will also be used for the Public Accuracy Test that will be held at the Rice County Government Services Building in Faribault, MN. Rice County will follow the guidelines provided by the Secretary of State's Office and by ES&S to ensure all programs and ballots are tested as required by statute. All programs and test data will be sealed as required by statute.

5. Prepare a test deck using the electronic ballot marker program as follows: Rice County Property Tax & Elections staff and/or our vendor will use the Predetermined Results Chart to include ballots marked using the AutoMarks and OmniBallots for all precincts and ballot styles in the County. The test ballots will be tabulated by running them through their respective precinct ballot optical scan tabulator and checked for accuracy. All test materials will be secured as required by statute. The Public Accuracy Test for all jurisdictions in Rice County will be held at the Rice County Government Services Building in Faribault, MN.

6. Verify that all valid votes counted by the precinct ballot tabulator may be selected using the electronic ballot marker as follows: Rice County Property Tax & Elections staff and/or our vendor will create Predetermined Results Charts using the guidelines provided by the Secretary of State's Office and by ES&S to guarantee thorough testing of all ballot styles, original and duplicate back-up programs and each electronic device to be used in the Election. Rice County Property Tax & Elections staff will conduct a pre-test prior to the first election at which the equipment will be used to test and verify accurate test results when modeming from the precinct to the county using the predetermined results testing data.

7. Certify that the electronic poll pads meet the technology and statutory requirements as set by M.S. 201.225 Subd. 2. and meet or exceed the certification checklists for Pre-Registered Voters and Election Day Registration contained in the Minnesota Secretary of State's Electronic Roster Guide. There will also be on-site testing of the electronic poll pads to verify they meet the state and county's requirements prior to the first election in which they will be used.

EXHIBIT D

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IV. Rice County's Plan Table

The County's Plan Table attached as Appendix A sets out the details about the electronic voting system including the assistive voting technology, optical scan tabulators, and electronic poll pads used at each polling place.

This Electronic Voting System Plan is proposed by Denise M Anderson, the Property Tax & Elections Director for Rice County in fulfillment of the requirements of Minnesota Statutes §206.82.

Denise M Anderson
Property Tax & Elections Director

STATE OF MINNESOTA
COUNTY OF RICE

This instrument was acknowledged before me on 4-26-22 by

Denise M Anderson as the Property Tax & Elections Director for Rice County.

Anne Engen
Notary Public

SEAL

Anne Engen
NOTARY PUBLIC
MINNESOTA
My Commission Expires Jan. 31 2027

Clerk II
Title

My Commission Expires 01-31-2027

EXHIBIT D

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Appendix A

2022

County Name:	Rice
County Auditor Name	Denise M Anderson
County Auditor Address	320 3rd Street NW, Faribault, MN 55021
County Auditor Telephone	(507) 332-6104
County Auditor email	danderson@co.rice.mn.us
Number of Cities in County	7
Number of Townships in County	14
Number of School Districts in County	8
Number of Locations in County designated for Absentee Balloting	2

List Each Polling Place including Absentee Balloting and Mail Balloting locations	List All Precincts in Each Polling Place	List State Assistive Voting Equipment used in the precinct	List Precinct Counting Method (hand, precinct optical scan, central count optical scan)	List Optical Scan Tabulator Model (if applicable)	Electronic Roster Guide	Number of Poll Pads
Bridgewater Town Hall	Bridgewater Twp	ES&S AutoMARK & Democracy Live OmniBallot	Precinct Optical Scan	ES&S DS200	KNOWiNK Poll Pad	3
Cannon City Town Hall	Cannon City Twp	ES&S AutoMARK & Democracy Live OmniBallot	Precinct Optical Scan	ES&S DS200	KNOWiNK Poll Pad	2
Dundas City Hall	Dundas	ES&S AutoMARK & Democracy Live OmniBallot	Precinct Optical Scan	ES&S DS200	KNOWiNK Poll Pad	2
Erin Town Hall	Erin Twp	ES&S AutoMARK & Democracy Live OmniBallot	Precinct Optical Scan	ES&S DS200	KNOWiNK Poll Pad	2
4H Building	Faribault P1	ES&S AutoMARK & Democracy Live OmniBallot	Precinct Optical Scan	ES&S DS200	KNOWiNK Poll Pad	5
Washington Center	Faribault P2	ES&S AutoMARK & Democracy Live OmniBallot	Precinct Optical Scan	ES&S DS200	KNOWiNK Poll Pad	5
Buckham Community Center	Faribault P3	ES&S AutoMARK & Democracy Live OmniBallot	Precinct Optical Scan	ES&S DS200	KNOWiNK Poll Pad	5
Our Savior's Lutheran Church	Faribault P4	ES&S AutoMARK & Democracy Live OmniBallot	Precinct Optical Scan	ES&S DS200	KNOWiNK Poll Pad	5
Forest Town Hall	Forest Twp	ES&S AutoMARK & Democracy Live OmniBallot	Precinct Optical Scan	ES&S DS200	KNOWiNK Poll Pad	2
IC Church Civic Center	Lonsdale	ES&S AutoMARK & Democracy Live OmniBallot	Precinct Optical Scan	ES&S DS200	KNOWiNK Poll Pad	4
Morristown Community Center	Morristown City & Twp	ES&S AutoMARK & Democracy Live OmniBallot	Precinct Optical Scan	ES&S DS200	KNOWiNK Poll Pad	4
Nerstrand City Hall	Nerstrand	ES&S AutoMARK & Democracy Live OmniBallot	Precinct Optical Scan	ES&S DS200	KNOWiNK Poll Pad	1
First United Church of Christ	Northfield W1 P1	ES&S AutoMARK & Democracy Live OmniBallot	Precinct Optical Scan	ES&S DS200	KNOWiNK Poll Pad	4
St. Peter's Lutheran Church	Northfield W1 P2	ES&S AutoMARK & Democracy Live OmniBallot	Precinct Optical Scan	ES&S DS200	KNOWiNK Poll Pad	5
United Methodist Church	Northfield W2 P1	ES&S AutoMARK & Democracy Live OmniBallot	Precinct Optical Scan	ES&S DS200	KNOWiNK Poll Pad	3
Northfield Community Resource Center	Northfield W2 P2	ES&S AutoMARK & Democracy Live OmniBallot	Precinct Optical Scan	ES&S DS200	KNOWiNK Poll Pad	4

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List Each Polling Place including Absentee Balloting and Mail Balloting locations	List All Precincts in Each Polling Place	List State Assistive Voting Equipment used in the precinct	List Precinct Counting Method (hand, precinct optical scan, central count optical scan)	List Optical Scan Tabulator Model (if applicable)	Electronic Roster Guide	Number of Poll Pads
Emmaus Baptist Church	Northfield W3 P1	ES&S AutoMARK & Democracy Live OmniBallot	Precinct Optical Scan	ES&S DS200	KNOWiNK Poll Pad	4
St. John's Lutheran Church	Northfield W4 P1	ES&S AutoMARK & Democracy Live OmniBallot	Precinct Optical Scan	ES&S DS200	KNOWiNK Poll Pad	3
St. Olaf College Buntrock Commons	Northfield W4 P2	ES&S AutoMARK & Democracy Live OmniBallot	Precinct Optical Scan	ES&S DS200	KNOWiNK Poll Pad	5
Northfield Town Hall	Northfield Twp P-1 & P-2	ES&S AutoMARK & Democracy Live OmniBallot	Precinct Optical Scan	ES&S DS200	KNOWiNK Poll Pad	4
Richland Town Hall	Richland Twp	ES&S AutoMARK & Democracy Live OmniBallot	Precinct Optical Scan	ES&S DS200	KNOWiNK Poll Pad	1
Shieldsville Town Hall	Shieldsville Twp	ES&S AutoMARK & Democracy Live OmniBallot	Precinct Optical Scan	ES&S DS200	KNOWiNK Poll Pad	2
Walcott Town Hall	Walcott Twp	ES&S AutoMARK & Democracy Live OmniBallot	Precinct Optical Scan	ES&S DS200	KNOWiNK Poll Pad	2
Warsaw Town Hall	Warsaw Twp	ES&S AutoMARK & Democracy Live OmniBallot	Precinct Optical Scan	ES&S DS200	KNOWiNK Poll Pad	2
Webster Town Hall	Webster P-1 & P-2	ES&S AutoMARK & Democracy Live OmniBallot	Precinct Optical Scan	ES&S DS200	KNOWiNK Poll Pad	4
Wells Town Hall	Wellls Twp	ES&S AutoMARK & Democracy Live OmniBallot	Precinct Optical Scan	ES&S DS200	KNOWiNK Poll Pad	2
Wheatland Town Hall	Wheatland Twp	ES&S AutoMARK & Democracy Live OmniBallot	Precinct Optical Scan	ES&S DS200	KNOWiNK Poll Pad	2
Wheeling Town Hall	Wheeling Twp	ES&S AutoMARK & Democracy Live OmniBallot	Precinct Optical Scan	ES&S DS200	KNOWiNK Poll Pad	2
Rice County PTE	Northfield Township P-3 & Dennison MB & ED	ES&S AutoMARK & Democracy Live OmniBallot	Precinct Optical Scan	ES&S DS200		
Rice County PTE	Rice County AB	ES&S AutoMARK & Democracy Live OmniBallot	Precinct Optical Scan	ES&S DS200		
Rice County PTE	Rice County DB	ES&S AutoMARK & Democracy Live OmniBallot	Precinct Optical Scan	ES&S DS200		
Northfield City Hall	Rice County DB	ES&S AutoMARK & Democracy Live OmniBallot	Precinct Optical Scan	ES&S DS200		
Rice County PTE	Rice County Back Up	ES&S AutoMARK & Democracy Live OmniBallot				
Rice County PTE	Rice County Back Up	Democracy Live OmniBallot				
Rice County PTE	Rice County AB & DB Counting		Central Count Optical Scan	ES&S DS450		
		TOTAL: 34 DEM & 33 AVM		**TOTAL: 32 DS200 & 1 DS450**	**TOTAL:**	**89**

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Appendix A

2022

County Name:	Rice
County Auditor Name	Denise M Anderson
County Auditor Address	320 3rd Street NW, Faribault, MN 55021
County Auditor Telephone	(507) 332-6104
County Auditor email	danderson@co.rice.mn.us
Number of Cities in County	**7**
Number of Townships in County	**14**
Number of School Districts in County	**8**
Number of Locations in County designated for Absentee Balloting	**2**

List Each Polling Place including Absentee Balloting and Mail Balloting locations	List All Precincts in Each Polling Place	List State Assistive Voting Equipment used in the precinct	List Precinct Counting Method (hand, precinct optical scan, central count optical scan)	List Optical Scan Tabulator Model (if applicable)	Electronic Roster Guide	Number of Poll Pads
Bridgewater Town Hall	Bridgewater Twp	Democracy Live OmniBallot V 3.3	Precinct Optical Scan	ES&S DS200 EVS 5.3.4.1	KNOWiNK Poll Pad Ap 3.2.0, ISO 15.4.1	3
Cannon City Town Hall	Cannon City Twp	Democracy Live OmniBallot V 3.3	Precinct Optical Scan	ES&S DS200 EVS 5.3.4.1	KNOWiNK Poll Pad Ap 3.2.0, ISO 15.4.1	2
Dundas City Hall	Dundas	Democracy Live OmniBallot V 3.3	Precinct Optical Scan	ES&S DS200 EVS 5.3.4.1	KNOWiNK Poll Pad Ap 3.2.0, ISO 15.4.1	2
Erin Town Hall	Erin Twp	Democracy Live OmniBallot V 3.3	Precinct Optical Scan	ES&S DS200 EVS 5.3.4.1	KNOWiNK Poll Pad Ap 3.2.0, ISO 15.4.1	2
4H Building	Faribault P1	Democracy Live OmniBallot V 3.3	Precinct Optical Scan	ES&S DS200 EVS 5.3.4.1	KNOWiNK Poll Pad Ap 3.2.0, ISO 15.4.1	5
Washington Center	Faribault P2	Democracy Live OmniBallot V 3.3	Precinct Optical Scan	ES&S DS200 EVS 5.3.4.1	KNOWiNK Poll Pad Ap 3.2.0, ISO 15.4.1	5
Buckham Community Center	Faribault P3	Democracy Live OmniBallot V 3.3	Precinct Optical Scan	ES&S DS200 EVS 5.3.4.1	KNOWiNK Poll Pad Ap 3.2.0, ISO 15.4.1	5
Our Savior's Lutheran Church	Faribault P4	Democracy Live OmniBallot V 3.3	Precinct Optical Scan	ES&S DS200 EVS 5.3.4.1	KNOWiNK Poll Pad Ap 3.2.0, ISO 15.4.1	5
Forest Town Hall	Forest Twp	Democracy Live OmniBallot V 3.3	Precinct Optical Scan	ES&S DS200 EVS 5.3.4.1	KNOWiNK Poll Pad Ap 3.2.0, ISO 15.4.1	2
IC Church Civic Center	Lonsdale	Democracy Live OmniBallot V 3.3	Precinct Optical Scan	ES&S DS200 EVS 5.3.4.1	KNOWiNK Poll Pad Ap 3.2.0, ISO 15.4.1	4
Morristown Community Center	Morristown City & Twp	Democracy Live OmniBallot V 3.3	Precinct Optical Scan	ES&S DS200 EVS 5.3.4.1	KNOWiNK Poll Pad Ap 3.2.0, ISO 15.4.1	4
Nerstrand City Hall	Nerstrand	Democracy Live OmniBallot V 3.3	Precinct Optical Scan	ES&S DS200 EVS 5.3.4.1	KNOWiNK Poll Pad Ap 3.2.0, ISO 15.4.1	1
First United Church of Christ	Northfield W1 P1	Democracy Live OmniBallot V 3.3	Precinct Optical Scan	ES&S DS200 EVS 5.3.4.1	KNOWiNK Poll Pad Ap 3.2.0, ISO 15.4.1	4
St. Peter's Lutheran Church	Northfield W1 P2	Democracy Live OmniBallot V 3.3	Precinct Optical Scan	ES&S DS200 EVS 5.3.4.1	KNOWiNK Poll Pad Ap 3.2.0, ISO 15.4.1	5
United Methodist Church	Northfield W2 P1	Democracy Live OmniBallot V 3.3	Precinct Optical Scan	ES&S DS200 EVS 5.3.4.1	KNOWiNK Poll Pad Ap 3.2.0, ISO 15.4.1	3
Northfield Community Resource Center	Northfield W2 P2	Democracy Live OmniBallot V 3.3	Precinct Optical Scan	ES&S DS200 EVS 5.3.4.1	KNOWiNK Poll Pad Ap 3.2.0, ISO 15.4.1	4
Emmaus Baptist Church	Northfield W3 P1	Democracy Live OmniBallot V 3.3	Precinct Optical Scan	ES&S DS200 EVS 5.3.4.1	KNOWiNK Poll Pad Ap 3.2.0, ISO 15.4.1	4
St. John's Lutheran Church	Northfield W4 P1	Democracy Live OmniBallot V 3.3	Precinct Optical Scan	ES&S DS200 EVS 5.3.4.1	KNOWiNK Poll Pad Ap 3.2.0, ISO 15.4.1	3

EXHIBIT D

Filed in District Court
State of Minnesota
10/13/2022 3:32 PM

List Each Polling Place including Absentee Balloting and Mail Balloting locations	List All Precincts in Each Polling Place	List State Assistive Voting Equipment used in the precinct	List Precinct Counting Method (hand, precinct optical scan, central count optical scan)	List Optical Scan Tabulator Model (if applicable)	Electronic Roster Guide	Number of Poll Pads
St. Olaf College Buntrock Commons	Northfield W4 P2	Democracy Live OmniBallot V 3.3	Precinct Optical Scan	ES&S DS200 EVS 5.3.4.1	KNOWiNK Poll Pad Ap 3.2.0, ISO 15.4.1	5
Northfield Town Hall	Northfield Twp P-1 & P-2	Democracy Live OmniBallot V 3.3	Precinct Optical Scan	ES&S DS200 EVS 5.3.4.1	KNOWiNK Poll Pad Ap 3.2.0, ISO 15.4.1	4
Richland Town Hall	Richland Twp	Democracy Live OmniBallot V 3.3	Precinct Optical Scan	ES&S DS200 EVS 5.3.4.1	KNOWiNK Poll Pad Ap 3.2.0, ISO 15.4.1	1
Shieldsville Town Hall	Shieldsville Twp	Democracy Live OmniBallot V 3.3	Precinct Optical Scan	ES&S DS200 EVS 5.3.4.1	KNOWiNK Poll Pad Ap 3.2.0, ISO 15.4.1	2
Walcott Town Hall	Walcott Twp	Democracy Live OmniBallot V 3.3	Precinct Optical Scan	ES&S DS200 EVS 5.3.4.1	KNOWiNK Poll Pad Ap 3.2.0, ISO 15.4.1	2
Warsaw Town Hall	Warsaw Twp	Democracy Live OmniBallot V 3.3	Precinct Optical Scan	ES&S DS200 EVS 5.3.4.1	KNOWiNK Poll Pad Ap 3.2.0, ISO 15.4.1	2
Webster Town Hall	Webster P-1 & P-2	Democracy Live OmniBallot V 3.3	Precinct Optical Scan	ES&S DS200 EVS 5.3.4.1	KNOWiNK Poll Pad Ap 3.2.0, ISO 15.4.1	4
Wells Town Hall	Wellls Twp	Democracy Live OmniBallot V 3.3	Precinct Optical Scan	ES&S DS200 EVS 5.3.4.1	KNOWiNK Poll Pad Ap 3.2.0, ISO 15.4.1	2
Wheatland Town Hall	Wheatland Twp	Democracy Live OmniBallot V 3.3	Precinct Optical Scan	ES&S DS200 EVS 5.3.4.1	KNOWiNK Poll Pad Ap 3.2.0, ISO 15.4.1	2
Wheeling Town Hall	Wheeling Twp	Democracy Live OmniBallot V 3.3	Precinct Optical Scan	ES&S DS200 EVS 5.3.4.1	KNOWiNK Poll Pad Ap 3.2.0, ISO 15.4.1	2
Rice County PTE	Northfield Township P-3 & Dennison MB & ED	Democracy Live OmniBallot V 3.3	Precinct Optical Scan	ES&S DS200 EVS 5.3.4.1		
Rice County PTE	Rice County AB	Democracy Live OmniBallot V 3.3	Precinct Optical Scan	ES&S DS200 EVS 5.3.4.1		
Rice County PTE	Rice County DB	Democracy Live OmniBallot V 3.3	Precinct Optical Scan	ES&S DS200 EVS 5.3.4.1		
Northfield City Hall	Rice County DB	Democracy Live OmniBallot V 3.3	Precinct Optical Scan	ES&S DS200 EVS 5.3.4.1		
Rice County PTE	Rice County Back Up	Democracy Live OmniBallot V 3.3				
Rice County PTE	Rice County Back Up	Democracy Live OmniBallot V 3.3				
Rice County PTE	Rice County AB & DB Counting		Central Count Optical Scan	ES&S DS450 EVS 5.3.4.1		
		TOTAL: 34 DEM & 33 AVM		**TOTAL: 32 DS200 & 1 DS450**	**TOTAL:**	**89**

EXHIBIT D