State of Wisconsin \ Government Accountability Board

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JUDGE MICHAEL BRENNAN
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KEVIN J. KENNEDY
Director and General Counsel

MEMORANDUM

DATE: For the December 17, 2009, Board Meeting

TO: Members, Wisconsin Government Accountability Board

FROM: Kevin J. Kennedy
Director and General Counsel
Government Accountability Board

Prepared and Presented by:
Ross Hein, Election Specialist
Voting Equipment Certification Coordinator

SUBJECT: Update: Election Systems and Software (ES&S)
Petition for Approval of Electronic Voting Systems

Introduction

At the Government Accountability Board (Board) meeting on November 9, 2009 the Board, in a 4-2 vote, decided to have staff further investigate the Election Systems and Software (ES&S) voting equipment application. Board staff received a request from ES&S to have electronic voting equipment approved for use in Wisconsin. No electronic voting equipment may be utilized in Wisconsin unless the Board approves it. ES&S submitted the following equipment for testing:

Equipment	Firmware Version	Type
Unity Election Management System	3.2.0.0	Election Management Software
intElect DS200	1.3.10.0	Precinct Optical Scan Ballot Counter
M650	2.2.2.0	Central Count Optical Scan Ballot Counter
AutoMark Voter Assist Terminal (VAT)	1.0 1.1 1.3.1 with Print Engineering Board 1.65 1.3.1 with Print Engineering Board 1.70	Ballot Marking Device

The Board expressed a concern with the ES&S intElect DS200, the precinct count optical scan which tabulates votes at the polling place and the manner in which the system processes ballots that contain overvotes or cross party votes. The Board directed staff to examine this issue in greater detail and report on potential options.

Discussion

Before any voting system may be used in Wisconsin, it must first demonstrate the ability to meet the voting system requirement provided in Wisconsin Statutes § 5.91.

Section 5.91 (7), Wis. Stats., requires voting systems that are approved for use in Wisconsin to reject all choices recorded on a ballot for an office or a measure if the number of choices exceed the number which an elector is entitled to vote for on such office or on such measure. Section 5.91 (6), Wis. Stats., requires voting equipment to reject any ballot on which votes are cast in the primary of more than one recognized political party. Additionally, § 5.91 (12), Wis. Stats., mandates the voting system minimize the possibility of disenfranchisement of electors as the result of failure to understand the method of operation or utilization of the voting system. The Board determined the manner in which overvotes or cross party votes were processed by the DS200 may be inconsistent with these provisions.

In the instance that a voter casts a ballot that contains a vote in excess of the number of choices the voter is allowed to vote for (overvote), the voting system is required to reject the ballot. Also, if a voter selects multiple parties in the primary election, the voting system is required to reject the ballot. The DS200 provides notification to the voter in the event of an overvote or cross party vote. On the screen of the DS200 the error message appears and the voter is given the option to "accept" the ballot or "return" the ballot to the voter. Staff believes the DS200 fails to fully explain the effect to the voter of pressing the "accept" button; that the office that contained excess votes or the ballot that contained multiple party votes in the primary election will be left uncounted.

In follow up research, G.A.B. staff reviewed a report produced by the Florida Department of State titled, "Analysis and Report of Overvotes and Undervotes for the 2008 General Election." This report is required by Florida Statute to be issued following every general election to study the "no valid vote" rate. The "no valid vote" rate is calculated by adding together undervotes, overvotes and invalid write-ins. Based upon statistical data compiled by the Florida Division of Elections, the ES&S DS200 had the highest "no valid vote" rate and overvote rate of any optical scan system used in Florida. Many of the same optical scan voting systems in use in Florida are also in use in Wisconsin, including the Optech Eagle, Sequoia Insight, Premier OS and ES&S M100. The statistical data are provided in the table below:

Equipment	**No Valid Vote**	**Overvote**
ES&S DS200	.92%	.47%
Sequoia Insight	.74%	.27%
Premier OS	.57%	.09%
Optech Eagle	.60%	.11%
ES&S M100	.89%	.20%

The Florida Elections Division attributed the higher "no valid vote" rate to the change from touchscreen voting equipment to paper ballot optical scan equipment for the 13 counties that used the DS200 in the 2008 general election.

Resolution

The DS200 can be configured to turn off the query in which the voter is given the option to either "accept" or "return" the ballot in the case of an overvote or cross party vote. When the DS200 is programmed with this configuration, each ballot that contains an overvote or cross party vote will automatically be rejected by the voting system and the ballot will be returned to the voter. The voter will then be required to re-make the ballot to correct the error. Under state law, a voter may be issued up to three separate ballots to correct voter errors made when casting the ballot. In the instance a voter casts a ballot that contains no votes, considered to be a blank ballot, the DS200 can be programmed to query the voter and the voter may choose to either "accept" or "return" the ballot. Some voters intentionally cast a blank ballot simply out of protest or to keep their voter registration status active.

Under this option, there is potential to increase the amount of time it may take for voters to cast their ballot and for election inspectors processing absentee ballots. Because the voting system will not accept any ballot that contains an overvote or cross party vote, every elector casting their ballot at the polling place must correct this type of error before their ballot may count. Additionally, election inspectors will need to remake every absentee ballot that contains a similar marking error. When re-making a ballot, two election inspectors must first attempt to determine if voter intent may be determined relating to the marking error. When voter intent is determined by the election inspectors, they must re-make the ballot to correct the error. If voter intent cannot be determined, the office(s) that contains the excess votes will be left blank. Similarly, if voter intent cannot be determined for a ballot that contains multiple party votes for a primary, the entire ballot will be re-made and left blank. The DS200 will provide notification with the option to either "accept" the blank ballot or "return" the blank ballot. Whenever a ballot is re-made by election officials, the original ballot is labeled and retained for a record in the event of post-election review.

Recommendation

1. Board staff recommends approval of these ES&S voting systems. Each system accurately completed the mock elections and was able to accommodate the voting requirements of the Wisconsin election process. In addition, these systems include accessibility features which enhance independence and privacy throughout the voting process.

2. Board staff has received complaints from our partners, the Wisconsin county and municipal clerks, regarding some ballot coding and printing deadlines imposed by ES&S. In most cases, the concerns expressed are that ES&S requires election information and data prior to deadlines imposed by Wisconsin statute. This is frustrating for many clerks and produces added stress during an already hectic time.

   Board staff recommends that as a condition of the Board's approval, that ES&S may not impose deadlines contrary to requirements provided in Wisconsin statute, as determined by the Board. In order to enforce this provision, local jurisdictions purchasing ES&S equipment should include a provision in their respective purchase contract ensuring ES&S does not require submission of election-related data before it is practically available.

3. As part of EAC certificate **ESSUnity3200**, only systems included in this certificate are allowed to be used together to conduct an election in Wisconsin. Previous versions that were approved for use by the former Elections Board are not compatible with the new ES&S voting system, and are not to be used together with the equipment versions seeking approval by the Board, as this would void the US-EAC certificate.

4. **Unity EMS 3.2.0.0 may only program the intElect DS200 precinct optical scan ballot counter, firmware version 1.3.10.0, the M650 central count optical scan ballot counter, firmware version 2.2.2.0 and AutoMARK Voter Assist Terminal (VAT), versions 1.0, 1.1, 1.3.1 ((Print Engineering Board (PEB)1.65)), 1.3.1 (PEB 1.70).**

5. As part of state approval, the DS200 is required to be configured to reject all overvote or cross party votes automatically, and the voter will not be provided the opportunity to "accept" a ballot that contains these marking errors. Ballots that contain no valid votes (blank ballot) will provide a query to either "accept" or "return" the ballot.

Proposed Board Motion

The Government Accountability Board approves staff's five-point recommendation for the ES&S voting systems application to be used in Wisconsin, in compliance with EAC certificate ESSUnity3200.

Special Note: As indicated in the previous attached report, elaborated on page 11, the ES&S voting system does not enhance access to the electoral process for individuals with disabilities and neither does it reduce or mitigate access for disabled voters.

Attachments

- ✓ November 9, 2009 Board Report: ES&S Petition for Approval of Electronic Voting Systems
- ✓ Wisconsin Administrative Code, GAB, Chapter 7
- ✓ Section 5.91, Wisconsin Statutes
- ✓ US-EAC Scope of Certification
- ✓ US-EAC Certificate of Conformance

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MEMORANDUM

DATE: For the November 9, 2009, Board Meeting

TO: Members, Wisconsin Government Accountability Board

FROM: Kevin J. Kennedy
Director and General Counsel
Government Accountability Board

Prepared and Presented by:
Ross Hein, Election Specialist
Voting Equipment Certification Coordinator

SUBJECT: Election Systems and Software (ES&S)
Petition for Approval of Electronic Voting Systems

Introduction

On July 27, 2009, the Government Accountability Board (Board) staff received a request from Election Systems and Software (ES&S) to have electronic voting equipment approved for use in Wisconsin. No electronic voting equipment may be utilized in Wisconsin unless the Board approves it. Wis. Stats. § 5.91. The Board has adopted administrative rules that detail the approval process. Wis. Admin. Code Ch. GAB 7. The complete text of § 5.91 and GAB 7 are attached. GAB 7.01(1)(e) requires all electronic voting equipment approved for use be certified by the Federal government. The United States Election Assistance Commission (US-EAC) is the Federal agency responsible for accrediting electronic voting equipment according to the Voting Systems Standards (VSS) / Voluntary Voting System Guidelines (VVSG).

Board staff scheduled voting equipment evaluation and demonstrations for ES&S during the week of September 28, 2009. ES&S submitted the following equipment for testing:

Equipment	Firmware Version	Type
Unity Election Management System	3.2.0.0	Election Management Software
intElect DS200	1.3.10.0	Precinct Optical Scan Ballot Counter
M650	2.2.2.0	Central Count Optical Scan Ballot Counter
AutoMark Voter Assist Terminal (VAT)	1.0 1.1 1.3.1 with Print Engineering Board 1.65 1.3.1 with Print Engineering Board 1.70	Ballot Marking Device

The former State Elections Board approved the Unity Election Management Suite, version 3.0.1.0, AutoMARK electronic ballot marking device, version 1.2 and the M650 version 2.1.2.0 at its January 18, 2006 meeting. The majority of the equipment tested in September was upgrades to the above equipment that are currently approved for use. However, the DS200 is a new precinct-based optical scan voting system now offered by ES&S.

ES&S submitted its testing application to the US-EAC on March 19, 2007. As such, the system was tested against the 2002 Voting System Standards. Only systems submitted to the US-EAC for testing after December 13, 2007, are tested using the 2005 Voluntary Voting System Guidelines. All of the systems, products and versions submitted for approval have been qualified under the 2002 Federal Voting System Standards.

ES&S submitted complete specifications for hardware, firmware and software related to the systems to G.A.B. staff. In addition, ES&S submitted technical manuals, documentation and instruction materials necessary for the operation of the equipment. The Voting System Test Laboratory responsible for testing the ES&S systems, iBeta Quality Assurance, recommended the US-EAC to certify ES&S Unity 3.2.0.0. iBeta provided that the acceptance requirements of the Federal Election Commission 2002 Voting System Standards have been met as demonstrated in testing. ES&S provided the iBeta report to the Board along with the application for approval of electronic voting equipment.

Voting Equipment Evaluation

As part of the review process, Board staff examined the ES&S application along with the manuals, specifications, documents, reports and instructions necessary for the operation of the equipment. As required by GAB 7.02(1), staff conducted three mock elections with each component of the voting system: a partisan primary, a general election with both a presidential and gubernatorial vote, and a nonpartisan election combined with a presidential preference vote. The mock elections offered an opportunity for staff to perform functional testing to ensure the system conforms to all Wisconsin requirements.

Staff tested the four separate hardware configurations for the ES&S AutoMARK independently, creating 100 test ballots with each hardware configuration for the three separate mock elections, totaling 1,200 ballots. The AutoMARK-marked ballots were tabulated by the optical scan equipment and verified by staff. For the optical scan systems, the DS200 and M650, staff tested each voting system by feeding 300 pre-marked ballots into the scanner for each separate mock election, for a total of 900 ballots per system. Staff determined the results produced by the optical scan system matched the staff's test plan.

Following the mock elections, the Wisconsin Election Administration Council (WI-EAC), which is made up of municipal and county clerks, representatives of the disability community, and community advocates, participated in a demonstration by the manufacturer and evaluated the equipment. An evening public demonstration of the voting system was also conducted September 30, 2009, and members of the public were able to provide comment. Below is a description and assessment of the equipment including any concerns staff and the WI-EAC may have regarding the approval of the equipment.

Election Systems and Software: Unity Election Management Suite v. 3.2.0.0

The Unity Election Management System (EMS) supports a jurisdiction's election needs by creating and maintaining a central database of election information, formatting and printing ballots on demand, programming election equipment and collecting and reporting of election results.

The Unity 3.2.0.0 includes:

- Election management system election preparation software:

- Election Data Manager v. 7.8.1.0,
- ES&S Ballot Image Manager v. 7.7.1.0,
- Hardware Programming Manager v. 5.7.1.0,
- AutoMARK Information Management System (AIMS) v. 1.3.157.

- Audit Manager v. 7.5.2.0;

- Election Reporting Manager v. 7.5.4.0;

- Pre-vote hardware: Ballot-on-Demand COTs printer;

Board Staff's Feedback

- The Unity Election Management System was used successfully to program each of the four hardware versions of the AutoMARK Voter Assist Terminal, the M650 and the DS200 optical scan ballot counter. ES&S demonstrated within Unity how to create the election / ballots for each given election. After the equipment counted the ballots, ES&S demonstrated the tabulation of the election results within Unity. ES&S also demonstrated the maintenance of the results by transferring the election data (programming, ballot definition and results) to a flash drive or the computer's hard drive. Staff visually verified the version numbers for each component of the Unity 3.2.0.0 EMS by checking the component's configuration display.

- As part of EAC certification for the system, the US-EAC requires all election programming and results reporting to use a "hardened system" for the Unity EMS and AIMS. A "hardened system" is a computer that contains only the Unity EMS and / or AIMS program and is used only for programming and results reporting. No other program or application is permitted on the unit.

Wisconsin Election Administration Council's Feedback

- No component of the ES&S voting system seeking State approval may be used with any of the previously approved voting systems. This would require different programming and ballots for jurisdictions that have combined systems and increase the overall cost to administer elections because you will need to have two separate databases to program the equipment and tabulate the results.

- A WI-EAC member thought it would be beneficial to have election officials do ballot layout and programming of the voting systems rather than the voting equipment manufacturer, so it is closer to Wisconsin election practices.

Election Systems and Software, AutoMARK Voter Assist Terminal (VAT), versions 1.0, 1.1, 1.3.1 ((Print Engineering Board (PEB)1.65)), 1.3.1 (PEB 1.70)

The AutoMARK VAT is comprised of a color touch screen monitor and integral ballot printer. To use the device, the voter inserts a pre-printed blank ballot into the input tray of the device. The mechanism draws in the ballot and scans a preprinted bar code on the ballot to determine which form of ballot has been inserted. The VAT then displays a series of menu-driven voting choices on its screen. The voter uses the touch screen to make voting selections. The VAT stores these choices in its internal memory.

When the voter has completed the selection process, the VAT provides a summary report for the voter to review his or her choices, and the AutoMARK VAT marks the ballot using its built-in printer. The print mechanism is a duplex device and can print both sides of the ballot. When the printing of the ballot is completed, the VAT feeds the ballot back to the voter. Once the ballot has been marked and provided to the voter, the AutoMARK VAT clears its internal memory and the paper ballot is the only lasting record of the voting selections made. The voter may visually confirm his or her selections, or

the ballot may be re-inserted into the VAT and the voter selections summary report will provide an audio summary for voters with visual impairments. The voter proceeds to enter the ballot into an optical scan voting system or a secured ballot box to be hand tabulated by election inspectors after the polls have closed.

Overvotes and crossover votes cannot occur on this equipment and a voter is warned about undervotes prior to the completion of voting. The AutoMARK VAT generates audio voting instructions that guide a visually impaired voter through the election sequence. The voter wears headphones to hear the spoken instructions. The voter makes his or her selections by pressing on a specially designed switch panel. The voter can adjust the volume and the screen may be "blacked out" to deactivate the LCD screen, to provide enhanced privacy. The voter may adjust the tempo (speed) of the audio instructions and the VAT accommodates a sip-puff device. The VAT can be programmed in multiple languages, although languages other than English are not currently required.

Board Staff's Feedback

- Staff tested the four separate hardware configurations for the ES&S AutoMARK independently, creating 100 test ballots for each hardware configuration for the three separate mock elections, totaling 1,200 ballots. The AutoMARK-marked ballots were tabulated by the optical scan equipment and verified by staff. Each hardware version of the AutoMARK VAT produced accurate results and matched the test decks created by staff.

- Although there were no errors with the physical marking of the test ballot by the VAT and the systems produced accurate results, there were some instances in which the system produced error messages that would require intervention by an election inspector. The messages displayed by the systems during testing were "paper misfeed," "error while printing" and "ballot not recognized." These errors generally occurred less than 5 times for every 100 ballots processed. The ballot was reinserted and correctly marked by the system. On one occasion, during testing of the AutoMARK version 1.3.1, PEB 1.65 for the Presidential Preference mock election, the system frequently provided the message "error while printing" and occurred approximately in 15% of all ballots tested. ES&S believed the errors were caused from a dirty read-head which caused the system to produce the "error while printing" notification. Another system with the same make and model was sent overnight by ES&S. A further testing of the system provided error-free results.

- The AutoMARK VAT does not seem to provide full privacy and independence for voters with disabilities, especially voters with dexterity or motor disabilities, as voters may need assistance inserting the ballot, removing the ballot and placing the ballot in the ballot box or tabulator.

- For the Partisan Primary, voters are unable to skip to other parties without triggering an undervote warning.

Wisconsin Election Administration Council's Feedback

- The AutoMARK device requires the voter to manually handle the paper ballot to verify or cast the official paper ballot. The device also requires a voter to place the voted ballot into a ballot box or counter. Individuals with a variety of motor disabilities may not be able to verify and cast ballots independently.

- The AutoMARK does not allow a voter to re-verify a write-in candidate, so a voter with vision impairments would not be able to verify the entire ballot if they cast write-in votes.

- If the zoom in/out button is pressed multiple times, the ballot is cancelled and comes out blank. The zoom in/out is not an option on all screens.

- Not only a point of concern about the AutoMARK, but all voting systems review should meet the current accessibility standards as defined by the US-EAC in the 2005 Voluntary Voting System Guidelines (VVSG). The ES&S system has been certified to the 2002 Voting System Standards.

- It takes longer to cast a ballot on the AutoMARK than manually marking the ballot with a marking device.

- Navigating the keypad is not instructive when casting a vote for a write-in candidate.

- Difficulty to read the screen with bi/tri focals and at times had to "punch" the screen to select a candidate. At one time it took three different ballot orientations before the system would accept the ballot.

- If the voter wants to vote for only one candidate, the voter has to scroll through the entire ballot before getting to the desired office.

- Of the members of the WI-EAC rating the AutoMARK systems, ten members provided their overall impression of the system on a scale of 1 to 5, 1 representing the evaluator "loved it,"5 representing "It's not for me." The mean score for the AutoMARK VAT is 2.5.

Election Systems and Software, intElect DS200 precinct optical scan ballot counter, firmware version 1.3.10.0

The intElect DS200 is a digital paper ballot tabulator used primarily as a precinct counting system to tabulate paper ballots at the polling place. Each system can process ballots for up to ten wards or reporting units. After the voter makes a selection with a marker, or a ballot marking device (AutoMARK VAT), the ballot is inserted into the DS200 for immediate tabulation. The precinct count optical scanner tabulates votes and feeds inserted ballots into an attached storage bin.

The system includes a large touch screen display to provide feedback to the voter on the disposition of their ballot. If any errors or irregularities (overvote / crossover vote) are recognized, the voter has the ability to return the ballot for review, or instruct the system to read it as-is. Both sides of the ballots are scanned using a high-resolution image-scanning device, and the votes and ballot images of an election are stored on an external USB flash drive. The flash drive can be removed and transported to the central tabulation location. The DS200 does not store any ballot data, election totals or election images in its internal memory. Results may not be "modemed-in" from the DS200 to a central location as the newer federal guidelines prohibit the use of modems to assist in the accumulation of election results.

Board Staff's Feedback

- Staff tested the DS200 by feeding 300 pre-marked ballots into the scanner for each separate mock election, for a total of 900 ballots. Staff determined the results produced by the DS200 were accurate and matched the test plan.

- Write-in votes for the DS200 ballot bin are indicated by a small pink circle and are not separated into a separate write-in bin. The ballot bin for a M100 optical scan voting system, currently approved for use in Wisconsin, may be used with the DS200 and will separate write-in votes to a separate compartment. Because all ballot images for the DS200 are stored on the external USB flash drive, write-in votes may be sorted within the Unity EMS for hand tabulation.

- Due to the configuration of this component (height and location of ballot input slot), it may be difficult for individuals with certain types of disabilities to insert a ballot without assistance.

- There were a few occasions where a ballot jam occurred while inserting the ballot into the DS200. An error message is displayed on the touch screen and there is an audio alert notifying the voter. The ballot is returned back to the voter and is reinserted to be counted.

Wisconsin Election Administration Council's Feedback

- The DS200 requires increased voter interaction compared to previous optical scan versions. There is a screen that requires a voter if they overvoted an office or cross-party voted, to manually push on the screen to determine if the ballot should be accepted as is, or returned to the voter correct the error. The screen is very high and someone in a wheelchair might not be able to see the screen and leave the polling place without knowing the error. A voter who is visually impaired will not see the screen notification and someone who has a motor disability may find it difficult to push the screen based on the location and height of the system.

- The party selection is designated on the screen of the DS200 within a partisan primary when an overvote occurs, taking away the secrecy of the ballot. In addition, if a voter casts a defective ballot (overvote), the office is identified on the screen of the system and could jeopardize full privacy.

- The ballot is not returned automatically to the voter when an overvote or crossover vote occurs. The voter is provided the opportunity to accept the ballot as-is, or the voter may choose to have the ballot returned to the voter. However, the system does not sufficiently explain the effect of the error. If the voter chooses to accept the ballot, the office that is overvoted or the entire crossvoted ballot will not be counted.

- The DS200 does not allow election night results to be "modemed-in" to the central location where results are tabulated. Requires all flash drives to be physically delivered to the central location.

- The report printed by election officials before the polls open does not provide lines for the election inspectors to sign and certify.

- The DS200 does not separate write-in votes into a separate write-in bin and requires more time to locate all write-in votes.

- The DS200 does not accommodate multiple ballot sizes and the auxiliary ballot bin is too small.

- Of the members of the WI-EAC casting a vote, four members voted in favor of approving this system for use in Wisconsin, with no negative votes. Four members did not cast a vote and two were undecided.

Public Comment

- The DS200 does not provide sufficient notice to the voter if he or she selects too many candidates for an office (overvote). The voter is told on the screen which races they have voted twice in and then has the option of hitting either "accept" or "return." The instructions do not convey that if the voter chooses to "accept" the ballot, the overvoted offices will not be counted.

Election Systems and Software, M650 central count optical scan ballot counter, firmware version 2.2.2.0

The Model 650 central-count systems uses green light sensors to process optical scan ballots at high speeds that have either been marked by hand by a voter or by ballot marking equipment. Ballots will be placed in a secured ballot container and delivered to the central location for tabulation. As the ballots

are counted at a central location, voters are not provided the opportunity to correct ballot errors made at the polling place. The scanner saves election results to a zip disk in order to make a permanent record of the election.

Board Staff's Feedback

- The Model 650 was able to process and accurately tabulate the optical scan ballots used in the mock election portion of the testing.

Wisconsin Election Administration Council's Feedback

- Of the members of the WI-EAC casting a vote, one member voted in favor of approving the Model 650 for use in Wisconsin, with no negative votes.

Analysis

To determine whether a voting system should be approved for use in Wisconsin, the following recommendations are based upon three goals. First, does the voting system meet Wisconsin's statutory requirements? Second, can the voting system successfully run an open, fair and secured Wisconsin election? Third, does the system enhance access to the electoral process for individuals with disabilities?

§ 5.91, Wis. Stats. provides the following requirements voting systems must meet to be approved for use in Wisconsin:

§ 5.91 (1)
The voting system enables an elector to vote in secret.
Staff Analysis
The ES&S voting system meets this requirement.

§ 5.91 (2)
The voting system enables an elector to vote a straight party ticket.
Staff Analysis
The ES&S voting system meets this requirement.

§ 5.91 (3)
The voting system enables the elector, for all elections, except primary elections, to vote for a ticket selected in part from the nominees of one party, and in part from nominees from other parties and write-in candidates
Staff Analysis
The ES&S voting system meets this requirement.

§ 5.91 (4)
The voting system enables an elector to vote for a ticket of his or her own selection for any person for any office for whom he or she may desire to vote whenever write-in votes are permitted.
Staff Analysis
The ES&S voting system meets this requirement.

§ 5.91 (5)
The voting systems accommodate all referenda to be submitted to electors in the form provided by law.
Staff Analysis
The ES&S voting system meets this requirement.

§ 5.91 (6)
The voting system permits an elector in a primary election to vote for the candidates of the recognized political party or independent candidates of his or her choice, and the system rejects any ballot on which votes are cast in the primary of more than one recognized political party, except where a party or independent candidate designation is made or where an elector casts write-in votes for candidates of more than one party on a ballot that is distributed to the elector.
Staff Analysis
The ES&S voting system meets this requirement.

§ 5.91 (7)
The voting system enables the elector to vote at an election for all persons and offices for whom and for which the elector is lawfully entitled to vote; to vote for as many persons for an office as the elector is entitled to vote for; to vote for or against any question upon which the elector is entitled to vote; and it rejects all choices recorded on a ballot for an office or a measure if the number of choices exceeds the number which an elector is entitled to vote for on such office or on such measure, except where an elector casts excess write-in votes upon a ballot that is distributed to the elector.
Staff Analysis
The voting system meets these requirements with one exception: where the elector casts excess write-in votes in addition to voting for a named candidate. All currently-certified systems will interpret this scenario as an overvote and reject such ballots for the voter to make the necessary revisions to the ballot. To meet this requirement, election procedures require election inspectors to inspect all ballots for write-in votes that may not be properly counted and separated into the proper receptacle by the voting system; this ensures all ballots are properly accounted for.

§ 5.91 (8)
The voting system permits an elector at a General Election by one action to vote for the candidates of a party for President and Vice President or for Governor and Lieutenant Governor.
Staff Analysis
The ES&S voting system meets this requirement.

§ 5.91 (9)
The voting system prevents an elector from voting for the same person more than once, except for excess write-in votes upon a ballot that is distributed to the elector.
Staff Analysis
The ES&S voting system meets this requirement.

§ 5.91 (10)
The voting system is suitably designed for the purpose used, of durable construction, and is usable safely, securely, efficiently and accurately in the conduct of elections and counting of ballots.
Staff Analysis
The ES&S voting system meets this requirement.

§ 5.91 (11)
The voting system records and counts accurately every vote and maintains a cumulative tally of the total votes cast that is retrievable in the event of a power outage, evacuation or malfunction so that the records of votes cast prior to the time that the problem occurs is preserved.
Staff Analysis

The ES&S voting system meets this requirement.

§ 5.91 (12)
The voting system minimizes the possibility of disenfranchisement of electors as the result of failure to understand the method of operation or utilization or malfunction of the ballot, voting system, or other related equipment or materials.
Staff Analysis
The ES&S voting system meets this requirement. For the DS200, concerns were stressed regarding the overvote or crossover vote notification that prompts the voter to either "accept" or "reject" the ballot but does not convey to the voter the effects of doing so. For optical scan voting systems currently in use, if a voter overvotes or crossvotes the ballot, the system will reject the ballot and the election inspector stationed at the equipment will explain the effect of the error to the voter and in most cases the voter will re-make the ballot; there is no explanation provided by the system. The poll worker must examine a paper printout to determine the reason the ballot was returned to the voter. If the DS200 is approved, it is recommended as normal protocol, that an election official be present and able to support the voting system if error notices are provided to a voter. Staff requested ES&S to investigate if the system could provide notice to the voter explaining the effect of overvotes or crossvotes. It was determined that such change would require an alteration to the current version seeking approval, as this specific component is hard coded within the system and would need to be properly vetted through the testing and approval process.

§ 5.91 (13)
The automatic tabulating equipment authorized for use in connection with the system includes a mechanism which makes the operator aware of whether the equipment is malfunctioning in such a way that an inaccurate tabulation of the votes could be obtained.
Staff Analysis
The ES&S voting system meets this requirement.

§ 5.91 (14)
The voting system does not use any mechanism by which a ballot is punched or punctured to record the votes cast by an elector.
Staff Analysis
The ES&S voting system meets this requirement.

§ 5.91 (15)
The voting system permits an elector to privately verify the votes selected by the elector before casting his or her ballot.
Staff Analysis
The ES&S voting system technically meets this requirement. Many of the concerns stressed by the WI-EAC and by the public address the inconveniences presented by the systems; however, the ES&S voting system would function similarly to other voting systems currently approved.

§ 5.91 (16)
The voting system provides an elector the opportunity to change his or her votes and to correct any error or to obtain a replacement for a spoiled ballot prior to casting his or her ballot.
Staff Analysis
The ES&S voting system meets this requirement.

§ 5.91 (17)

Unless the ballot is counted at a central counting location, the voting system includes a mechanism for notifying an elector who attempts to cast an excess number of votes for a single office the ballot will not be counted, and provides the elector with an opportunity to correct his or her ballot or to receive a replacement ballot.
Staff Analysis
The ES&S voting system meets this requirement.

§ 5.91 (18)
If the voting system consists of an electronic voting machine, the voting system generates a complete, permanent paper record showing all votes cast by the elector, that is verifiable by the elector, by either visual or nonvisual means as appropriate, before the elector leaves the voting area, and that enables a manual count or recount of each vote cast by the elector.
Staff Analysis
Since the ES&S voting system presented for approval requires paper ballots to be used to cast votes, this requirement does not apply.

The Help America Vote Act of 2002 (HAVA) also provides the following applicable requirements that voting systems must meet:

HAVA § 301(a)(1)(A)
The voting system shall: (i) permit the voter to verify (in a private an independent manner) the votes selected by the voter on the ballot before the ballot is cast and counted; (ii) provide the voter with the opportunity (in a private and independent manner) to change the ballot or correct any error before the ballot is cast and counted (including the opportunity to correct the error through the issuance of a replacement ballot if the voter was otherwise unable to change the ballot or correct any error); and (iii) if the voter selects votes for more than one candidate for a single office – (I) notify the voter than the voter has selected more than one candidate for a single office on the ballot; (II) notify the voter before the ballot is cast and counted of the effect of casting multiple votes for the office; and, (III) provide the voter with the opportunity to correct the ballot before the ballot is cast and counted
HAVA § 301(a)(1)(C)
The voting system shall ensure than any notification required under this paragraph preserves the privacy of the voter and the confidentiality of the ballot.
HAVA § 301(a)(3)(A)
The voting system shall— (A) be 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 other voters
Staff Analysis
The ES&S voting system meets these requirements. However, concerns were stressed regarding the accessibility and privacy of the AutoMARK and the DS200 optical scan system, that the entire voting process is not completely accessible. There are approximately 1,000 AutoMARK units used in polling places to provide accessible means to the disabled voters and the upgrades would supplement these systems if the jurisdiction determined to upgrade their entire system.

The AutoMARK voting systems for which approval is being sought, do not change the degree of accessibility currently provided by previously approved AutoMARK systems. Accessibility was determined by the former Elections Board to apply to the act of voting, not the insertion or removal of the ballot into the marking device and placing the ballot into the ballot box or optical scan voting system.

All of the systems, products and versions submitted for approval have been qualified under the 2002 Federal Voting System Standards. The system was tested against the 2002 VSS. Voting applications received by the US-EAC after December 13, 2007, are tested to the 2005 Voluntary Voting System Guidelines (VVSG). However, no voting equipment manufacturer currently approved for use in Wisconsin has made application to be tested under the 2005 VVSG and it is difficult to say when that would occur.

It has been nearly four years since any new ES&S voting equipment technology has been approved for use in Wisconsin. It has taken time for the US-EAC to get its testing certification process rolled out and issuing certified voting systems. Many of the voting systems used in Wisconsin, both optical scan and central count voting systems, have been in use since the 1990's and there are questions how long these systems will last. It is not a question of voting system accuracy that is driving the new approval request.

These voting systems produce verifiable and accurate results, but instead, the availability of parts for the old systems may require the acquisition of new voting systems. Some of the parts are becoming obsolete and it is unknown how long manufacturers will be able to provide maintenance services for the voting systems currently in use. There are municipalities seeking upgrades to their voting systems and some are looking to purchase new voting equipment altogether. However, as the ES&S systems seeking approval may only be used together and may not be used with previously approved systems, it is unknown how many jurisdictions would purchase these systems. Regardless, approval by the Board would provide ES&S customers the opportunity to upgrade voting systems that are currently in use and purchase new voting equipment technology.

Conclusion

1. Does the voting system meet Wisconsin's statutory requirements?

   Staff's Response: Yes.

2. Can the voting system successfully run an open, fair and secured Wisconsin election in compliance with Wisconsin Statutes?

   Staff's Response: Yes. Each system accurately completed the mock elections and was able to accommodate the voting requirements of the Wisconsin election process.

3. Does the system enhance access to the electoral process for individuals with disabilities?

   Staff's Response: This system does not enhance access to the electoral process for individuals with disabilities, and neither does it reduce or mitigate access for disabled voters. The current scope and degree of accessibility remains substantially the same.

Board Staff's Concerns

- The voting systems upgrades will not be compatible with other ES&S precinct-based optical scan voting equipment currently approved for use in Wisconsin.

- During testing of the AutoMARK voting system, staff experienced errors for approximately 5% of all ballots generated by staff. These errors did not involve the accuracy of marking the ballot.

- Due to the configuration of the DS200 (height and location) it may be difficult for individuals with certain disabilities to insert a ballot without assistance.

- As voting equipment results are not permitted be "modemed-in" under the new voting equipment guidelines, many municipalities would need to change its process for tabulating the election results. This may create delays in how quickly unofficial results are made available to the public as flash drives will need to be delivered in person to the central tabulation site.

- This system does not measurably enhance access to the electoral process for individuals with disabilities, and neither does it reduce or mitigate access for disabled votes. The current scope and degree of accessibility remains substantially the same.

Recommendation

1. Board staff recommends approval of these ES&S voting systems. Each system accurately completed the mock elections and was able to accommodate the voting requirements of the Wisconsin election process. In addition, these systems include accessibility features which enhance independence and privacy throughout the voting process.

2. Board staff recommends that as a condition of the Board's approval, that ES&S may not impose deadlines contrary to requirements provided in Wisconsin statute, as determined by the Board. In order to enforce this provision, local jurisdictions purchasing ES&S equipment should include a provision in their respective purchase contract ensuring ES&S does not require submission election related data before it is practically available.

   Board staff has received complaints from our partners, the Wisconsin county and municipal clerks regarding some ballot coding and printing deadlines imposed by ES&S. In most cases, the concerns expressed are that ES&S requires election information and data prior to deadlines imposed by Wisconsin statute. This is frustrating for many clerks and produces added stress during an already hectic time.

3. As part of EAC certificate: **ESSUnity3200**, only systems included in this certificate are allowed to be used together to conduct an election in Wisconsin. Previous versions that were approved for use by the former Elections Board are not compatible with the new ES&S voting system, and are not to be used together with the equipment versions seeking approval by the Board, as this would void the US-EAC certificate.

4. **Unity EMS 3.2.0.0 may only program the M650 central count optical scan ballot counter, firmware version 2.2.2.0, the M650 central count optical scan ballot counter, firmware version 2.2.2.0 and AutoMARK Voter Assist Terminal (VAT), versions 1.0, 1.1, 1.3.1 ((Print Engineering Board (PEB)1.65)), 1.3.1 (PEB 1.70).**

Proposed Board Motion

The Government Accountability Board approves staff's four-point recommendation for the ES&S voting systems application to be used in Wisconsin, in compliance with EAC certificate: ESSUnity3200.

Attachments

- ✓ Wisconsin Administrative Code, GAB, Chapter 7
- ✓ Section 5.91, Wisconsin Statutes
- ✓ US-EAC Scope of Certification
- ✓ US-EAC Certificate of Conformance