State of Wisconsin\Government Accountability Board

JUDGE TIMOTHY L. VOCKE
Chair

KEVIN J. KENNEDY
Director and General Counsel

MEMORANDUM

DATE: For the March 20 and 21, 2013, Board Meeting

TO: Members, Wisconsin Government Accountability Board

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

Prepared and Presented by:
Sherri Ann Charleston
Voting Equipment Election Specialist
Government Accountability Board

Ross Hein
Elections Supervisor
Government Accountability Board

SUBJECT: Election Systems and Software (ES&S)
Petition for Approval of Electronic Voting System
Unity 3.4.0.0

I.   Introduction

Election Systems and Software (ES&S) is requesting that the Government Accountability Board approve ES&S Unity 3.4.0.0 for sale and use in the State of Wisconsin. No electronic voting equipment may be offered for sale or utilized in Wisconsin unless the Board first approves it. Wis. Stat. §5.91. The Board has also adopted administrative rules detailing the approval process. Wis. Admin. Code Ch. GAB 7.

Unity 3.4.0.0 is a paper based Election Management System (EMS) for end-to-end election management. Unity EMS allows jurisdictions to create and maintain a central database of election information, format and print paper ballots on demand, program election equipment, and collect and report election results

The Government Accountability Board (Board) previously approved the Unity Election Management Suite, version 3.2.0.0 Rev 3, which includes the DS200 digital scanner, version 1.6.1.0, and AutoMARK Voter Assist Terminal versions 1.3.2906 and 1.3.1, on August 28, 2012. The DS 200 and AutoMARK in Unity 3.4.0.0 use identical firmware to what was previously certified with 3.2.0.0 Rev 3. The Model 100 Precinct Tabulator which is part of Unity 3.4.0.0 was not certified with the 3.2.0.0 Rev 3 system. It was most recently certified by the State Elections Board in 2006 and approved for modification via an Engineering Change Order in 2010.[1] All of the pieces of equipment tested in

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[1] Approval of modification to the previously certified M100 voting system occurred August 25, 2010 pursuant to Wis. Adm. Code GAB §7.03(1) and with authorization granted by the Board to Director Kennedy to approve applications for voting systems modifications to systems previously approved for use in Wisconsin.

February 2013 were upgrades to the above equipment that are currently approved for sale and use in Wisconsin. This is not a brand new voting system, but rather a previously approved voting system with updates that are more than de minimis and which require new approval.

II.   Recommendation

Based on the federal testing and certification of this system and on Board staff's own functional testing of this equipment, Board staff is recommending approval of ES&S Unity 3.4.0.0 for sale and use in Wisconsin. More detailed recommendations are listed on pages 11-12, following the analysis of the functional testing.

III.   Background

On June 13, 2012, Board staff received an Application for Approval of Unity 3.4.0.0. This initial request was rejected for two reasons: 1) Unity 3.4.0.0 had not yet obtained a U.S. EAC certification and 2) the application was submitted on an outdated application form. Furthermore, the Application for Approval sought the G.A.B.'s approval of both Unity 3.2.0.0 Rev. 3 and Unity 3.4.0.0. On July 11, 2012 ES&S resubmitted a proper Application for Approval of Unity 3.2.0.0. Rev3 and the G.A.B. staff scheduled voting system testing and demonstrations. The Board approved Unity 3.2.0.0 Rev 3 for sale and use in Wisconsin at its August 28, 2012 meeting.

ES&S resubmitted a proper Application for Approval of Unity 3.4.0.0 on December 18, 2012. ES&S submitted complete specifications for hardware, firmware and software related to the voting system. In addition, ES&S submitted technical manuals, documentation and instruction materials necessary for the operation of the voting system. ES&S initially requested certification for the DS850 high speed central scanner. On February 7, 2013 ES&S withdrew the DS850 from its Unity 3.4.0.0 Application for Approval as they did not forecast that any units would be sold during the near term sales cycle in Wisconsin.

The Voting System Test Laboratory responsible for testing the ES&S systems at the federal level, Wyle Laboratories, recommended that the US EAC certify ES&S Unity 3.4.0.0. ES&S provided the Wyle report to the Board along with the Application for Approval of Unity 3.4.0.0. Voting systems submitted to the U.S. EAC for testing after December 13, 2007 are tested using the 2005 Voluntary Voting System Guidelines. However, as this was a modification of a system previously certified to the 2002 Voting System Standards, upon successful completion of testing, the US EAC certified the new version to the 2002 Voting System Standards. The EAC certified ES&S Unity 3.4.0.0 on October 31, 2012, and issued it certification number **ESSUnity3400**.

Board staff scheduled voting system evaluations and demonstrations for ES&S during the week of February 11, 2013. ES&S submitted the following equipment for testing:

Equipment	Hardware Version(s)	Firmware Version	Type
DS200	1.2	1.6.1.0	Precinct Tabulator
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	1.3.2907	Ballot Marking Device
M100		5.4.4.5	Precinct Tabulator

A. DS200

The DS200 is a digital scanner and 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 secured storage bin.

The system includes a large touch screen display to provide feedback to the voter on the disposition of his or her ballot. If any errors or irregularities (overvote/crossover vote/blank ballot) are identified, the voter has the ability to return the ballot for review, or instruct the system to read it as-is.[2] 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 with the results and ballot images can also 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.

B. AutoMARK VAT

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 or key pad provided 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 is 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 for tabulation 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 for voters who do not have use of their hands. The VAT can be programmed in multiple languages, although languages other than English are not currently required in most Wisconsin municipalities. The City of Milwaukee is subject to a Spanish language requirement under Section 203 of the Voting Rights Act and the VAT accommodates that requirement.

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[2] ES&S preprogrammed the DS200 to automatically reject overvotes and crossover votes. Voters were given the option to accept or reject blank ballots.

C. Model 100 (M-100)

The M100 is an optical precinct ballot scanner and tabulator. ES&S upgraded the M100 to function with the Unity 3.4.0.0 package. Specifically, ES&S expanded the number of precincts that could be counted on Election Day from 10 to a maximum of 18. Early voting precincts were also expanded from 10 to a maximum of 450. Finally, ES&S enhanced support for 2007 Daylight Savings Rules, audit log messaging, and voter/poll worker messaging.

Voters make their selections and then insert their ballots directly into the M100 at the polling place. As soon as a voter inserts the ballot, the scanner tabulates votes, sorts the ballot, and then feeds it into the attached ballot storage bin. The system includes a small screen display that is manually operated to provide feedback to the voter on the disposition of their ballot. If any errors or irregularities (overvote /crossover) are identified, the M100 offers the voter the opportunity to reject or accept the ballot.[3] Both sides of the ballots are scanned using a high-resolution image-scanning device. The system tabulates the votes and produces a printed report of the vote count together with report data stored on a battery backed-up PCMCIA memory card. The PCMCIA memory card with the results can also be removed and transported to the central tabulation location.

D. 3.4.0.0 Election Management System Software

The Unity 3.4.0.0 suite also includes the following software, which was verified by staff:

Software	Unity 3.2.0.0 R3	Unity 3.4.0.0
Audit Manager	7.5.2.0	7.5.2.0
Election Data Manager	7.8.1.0	7.8.1.0
ESS Image Manager	7.7.1.0	7.7.1.0
Hardware Programming Manager	5.7.1.0	5.8.0.0
Election Reporting Manager	7.5.4.0	7.8.0.0
AutoMark Information Management System (AIMS)	1.3.157	1.3.257
VAT Previewer	1.3.2906	1.32907
Log Monitor	1.0.0.0	1.0.0.0

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[3] ES&S preprogrammed the M-100 to automatically reject overvotes and crossover votes. Voters were given the option to accept or reject blank ballots.

### IV.	Functional Testing

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 designed a test deck of approximately 1,000 test ballots using various configurations of ballot positions over the three separate mock elections to verify the accuracy and functional capabilities of the system. The four AutoMARK hardware configurations were tested by marking approximately 80 ballots with the equipment using various ballot marking configurations and ballot styles. The Auto-MARKed ballots were then verified by staff before being tabulated by the DS200 and M100 tabulation equipment. Staff determined the results produced by each tabulator matched the expected results from the test plan.[4]

### V.	Public Demonstration

Following the mock elections, an evening public demonstration of the voting system was conducted February 13, 2013 from 5:00 – 7:00 p.m. and members of the public were able to use the system and provide comment. Three members of the public attended. The participants included one citizen, a representative from State Senator Lazich's office, and a representative from the office of Brown County Clerk Sandy Juno.

Comments from the public demonstration are included in the appendices.

### VI.	Wisconsin Election Administration Council Demonstration

Also, on February 14, 2013 from 9:30 a.m. – 12:00 p.m., 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.

Comments from the WI-EAC are included in the appendices.

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[4] In the mock Partisan Primary election, there were voter marking errors in twelve of the ballots produced for the test deck (57, 70, 71, 141, 151, 170, 171, 266, 267, 269, 270, 27). Temporary staffers were hired to create the markings on the test deck. In entering the configurations from the test design onto the ballots, the temporary staff member assigned to produce the deck committed several marking errors, including entering votes not on the test design, creating duplicate ballots, and failing to fill in the corresponding ovals for write-in votes. Staff members discovered these errors while tabulating results using the M100. Staff members examined the test deck, corrected the incorrect ballots, and were able to effectively reconcile the test results. After completing the reconciliation, staff determined that the partisan primary tabulations were without error. In the future, temporary staff members will be asked to verify each other's work.

Staff tabulated the Partisan Primary election test deck using the DS200. The DS200 detected and recorded votes for twelve (12) races that were identified in the test design as "voter error" entries. Staff concluded that though temporary staffers were instructed to enter "voter errors" (extraneous marks in lieu of properly filled in ovals) the DS200 was able to detect marks that were not as difficult for the machine to detect as they should have been.

In the mock general election, there were voter marking errors on three (3) ballots (319, 50, 8) discovered during the testing of the DS200. The DS200 tabulated votes from Ballot #276, which included staff designed voter errors marks in fifteen races. Staff corrected the defective ballots, but did not remake ballot #276. Staff re-tabulated the results using the M100. The results were perfect with the exclusion of the overvotes created by ballot #276. Staff concluded that the voter errors entered by temporary staffers had not been extraneous enough.

The mock presidential preference election test deck included one ballot with voter marking errors. Additionally, staff initially failed to insert a photocopied ballot in lieu of a properly marked ballot thereby creating an excess vote. Staff members corrected the incorrect ballots and were able to effectively reconcile the test results with the machine totals for both the M100 and the DS200.

VII. Board Staff's Feedback

The Unity Election Management System in Unity 3.4.0.0 was used successfully to program each of the four hardware versions of the AutoMARK Voter Assist Terminal, one DS200 digital scan ballot tabulator, and one M100 precinct tabulator. 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. Staff visually verified the version numbers for each component of the Unity 3.4.0.0 EMS by checking the component's configuration display.

As part of its certification of 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.

A. AutoMARK Voter Assist Terminal

➤ Although there were no errors with the physical marking of the test ballot by the AutoMARK and the four hardware configurations produced accurate marks, 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 were generally infrequent and fixed by simply re-feeding the ballot into the machine.

➤ The AutoMARK does not arguably provide absolute 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. However, it does provide substantial compliance with these objectives.

B. DS200 Digital Scan Precinct Tabulator

➤ Although there were no errors with the tabulation of the test ballots by the DS200, there were some instances in which the DS200 produced error messages that may require intervention by an election inspector. Among the messages by the systems during testing were "ballot too long," "ballot not inserted far enough", "ballot not recognized," and "missed orientation marks." With each of these errors, there was an audio alert notifying the voter of an issue with the ballot. These errors were generally infrequent and occasionally fixed by simply re-feeding the ballot into the machine. However, on several occasions the ballot had to be reinserted using a different orientation. This might suggest the scanner has difficulty reading ballots that are not inserted face up and top forward, but because the problem was not consistent staff could not definitely determine that this was the case.

➤ The DS200 was able to correctly read marks in pencil, black pen, blue pen, red pen, and green pen as well as by the ES&S-provided markers.

➤ The ability of the DS200 to capture digital ballot images automatically may provide a more cost-effective alternative to groups requesting to conduct post-election audits of the vote by review of the paper ballots.

➤ Write-in votes in the DS200 ballot bin are marked with a small pink circle and depending on the ballot box used, may or may not be separated into a separate write-in bin. The system can be easily configured to capture ballot images of ballots with write-ins and store them on the external USB flash drive, which would permit write-in votes to be easily

verified within the Unity EMS. However, this would not replace the need for inspectors to manually inspect each ballot to detect write-in votes where the voter did not fill in the target area next to the write-in line.

➢ The DS200's ballot input slot may be difficult for individuals with certain types of disabilities to insert a ballot without assistance due to the height and location of ballot input slot.

➢ 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 directing the voter to contact a poll worker and there is also an audio alert notifying the voter. The ballot is returned back to the voter and can be reinserted to be counted.

➢ While the DS200 includes a large touch screen display to provide feedback to the voter on the disposition of their ballot, the manufacturer's default configuration allows the voter to instruct the DS200 to accept the ballot as is, even if it contains any fatal errors or irregularities such as overvotes or crossover votes. The vendor had preprogrammed the configuration to automatically reject all ballots with overvotes or crossover votes, which requires the voter to correct the error by remaking his or her ballot and so as to ensure that electors do not mistakenly process a ballot on which a vote for one candidate or all candidates will not count.

➢ Ballots marked with a party preference choice selection only, but no individual votes in the partisan primary, are accepted with no feedback provided to the voter on the disposition of their ballot. The DS200 reads this marking as a contest.

➢ The voting systems upgrades will not be compatible with other ES&S precinct-based optical scan voting equipment currently approved for sale and use in Wisconsin. Municipalities using other ES&S precinct-based optical scan voting equipment will have to either upgrade older versions of firmware or purchase equipment included within this test. Some legacy systems approved under NASED have the ability to "modem-in" their results to a central office for tabulation. Many municipalities wishing to purchase and use Unity 3.4.0.0 would need to change their 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 physically delivered to the central tabulation site. While the ability to "modem-in" results is not a requirement for Wisconsin approval, the lack of such capacity in a voting system is noted as a drawback by many local election officials. This issue is addressed more fully in the separate Memorandum regarding ES&S Unity 3.4.0.1.

C. M100 Precinct Tabulator

➢ Although there were no errors with the tabulation of the test ballots by the M100, there were some instances in which the M100 produced error messages that may require intervention by an election inspector. Among the messages by the systems during testing were "no back image detected," "Unable to read time band, please re-feed ballot," "Top scanbar has blocked sensors." With each of these errors, there was an audio alert notifying the voter of an issue with the ballot. These errors were generally infrequent and occasionally fixed by simply re-feeding the ballot into the machine. However, on several occasions the ballot had to be reinserted using a different orientation. This might suggest the scanner has difficulty reading ballots that are not inserted face up and top forward, but because the problem was not consistent staff could not definitely determine that this was the case.

- ➢ The M100 was able to correctly read marks in pencil, black pen, blue pen, red pen, and green pen as well as by the ES&S-provided markers.

- ➢ The M100 does not capture electronic ballot images.

- ➢ The M100 has a small screen display to provide feedback to the voter on the disposition of their ballot. The screen may be difficult for voters with physical or visual impairments to view without assistance.

- ➢ The manufacturer's default configuration allows the voter to instruct the M100 to accept the ballot even if it contains any fatal errors or irregularities such as overvotes or crossover votes. The vendor had preprogrammed the configuration to automatically reject all ballots with overvotes or crossover votes, which permitted the voter to correct the error by remaking his or her ballot. This also ensures that electors do not mistakenly process a ballot on which a vote for one candidate or all candidates will not count.

D. Statutory Compliance

Wis. Stat. §5.91 provides the following requirements voting systems must meet to be approved for use in Wisconsin. Please see the below text of each requirement and staff's compliance analysis.

§ 5.91 (1)
The voting system enables an elector to vote in secret.
Staff Analysis
The ES&S voting system meets this requirement by allowing a voter to vote a paper ballot in the privacy of a voting booth or at the accessible voting station without assistance.

§ 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 allows voter to split their ballot among as many parties as they wish during any election that is not a partisan primary.

§ 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 allows write-ins where permitted.

§ 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 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 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 can be configured to always reject crossover votes without providing an opportunity for the voter to override. It is recommended that the Board continue to require this configuration due to potential voter confusion over the error message and voter's ability to submit a ballot upon which no votes will be counted. Additionally, staff recommends that the system be configured to automatically reject all improper ballots, excluding blank votes, without giving the voter the option to override.

§ 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 and require 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 if it is configured to automatically reject all overvote and crossover ballots like other optical scan systems currently in use in Wisconsin. Staff recommends that the system be configured to automatically reject all improper ballots, excluding blank votes, without giving the voter the option to override. This is a requirement of the Board's prior 2009 and 2012 certification.

§ 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 does not use any such mechanism to record votes.

§ 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 meets this requirement.

§ 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 if it is configured to automatically reject all overvote and crossover ballots like other optical scan systems currently in use in Wisconsin. Staff recommends that the system be configured to automatically reject all improper ballots, excluding blank votes, without giving the voter the option to override. This is a requirement of the Board's prior 2009 and 2012 certification.

§ 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 and 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.

VIII. Conclusion

To determine whether a voting system should be approved for use in Wisconsin, the following recommendations are based upon three goals.

1. 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.

2. 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 over previously approved Unity voting systems, and neither does it reduce or mitigate access for disabled voters. The current scope and degree of accessibility remains substantially the same as previously approved Unity voting systems.

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

    Staff's Response: Yes. The voting system complies with all applicable state and federal requirements. However, staff recommends that the system be configured to automatically reject all improper ballots, excluding blank votes, without giving the voter the option to override. This is a requirement of the Board's prior 2009 and 2012 certification.

IX. Recommendations

1. Board staff recommends approval of this ES&S voting system, Unity 3.4.0.0 and components set forth in the tables on pages 2 and 4 above. The system accurately completed the mock elections and was able to accommodate the voting requirements of the Wisconsin election process.

2. Board staff recommends that as a continuing condition of the Board's approval, that ES&S may not impose customer deadlines contrary to requirements provided in Wisconsin Statutes, as determined by the Board. In order to enforce this provision, local jurisdictions purchasing ES&S equipment shall also include such a provision in their respective purchase contract or amend their contract if such a provision does not currently exist.

3. Board staff recommends that as a continuing condition of the Board's approval, that this system must always be configured to include the following options:

    a. Automatic rejection of <u>overvoted</u> ballots with no opportunity for the voter to override.
    b. Automatic rejection of <u>crossover</u> ballots with no opportunity for the voter to override.
    c. Automatic rejection of all improper ballots except blank ballots.
    d. Digital ballot images to be captured for all ballots tabulated by the system (if capable).

4. Board staff recommends election inspectors shall remake all absentee ballots automatically rejected so that the ballot count is consistent with total voter numbers.

5. As part of US EAC certificate: ESSUnity3400, 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. If a jurisdiction upgrades to Unity 3.4.0.0, they need to upgrade each and every component of the system to the requirements of what is approved herein.

6. Unity EMS 3.4.0.0. may only program the 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).

7. Board staff recommends that as a condition of approval, ES&S shall abide by applicable Wisconsin public records laws. If, pursuant to a proper public records request, the customer receives a request for matters that might be proprietary or confidential, customer will notify ES&S, providing the same with the opportunity to either provide customer with the record that is requested for release to the requestor, or shall advise Customer that ES&S objects to the release of the information, and provide the legal and factual basis of the objection. If for any reason, the Customer concludes that Customer is obligated to provide such records, ES&S shall provide such records immediately upon Customer's request. ES&S shall negotiate and specify retention and public records production costs in writing with customers prior to charging said fees. In absence of meeting such conditions of approval, ES&S shall not charge customer for work performed pursuant to a proper public records request, except for the "actual, necessary, and direct" charge of responding to the records request, as that is defined and interpreted in Wisconsin law, plus shipping, handling, and chain of custody.

X.   **Proposed Board Motion**

MOTION: The Government Accountability Board adopts the staff's recommendation for approval of the ES&S voting system's Application for Approval of Unity 3.4.0.0 to be sold or used in Wisconsin, in compliance with US EAC certificate: ESSUnity3400, including the conditions described above.

Attachments

✓   Appendix 1: Wisconsin Election Administration Council Feedback
✓   Appendix 2: Public Feedback
✓   Wisconsin Statutes § 5.91
✓   Wisconsin Administrative Code GAB 7
✓   US-EAC Certificate of Conformance
✓   US-EAC Scope of Certification

APPENDIX 1: Wisconsin Election Administration Council's Feedback
These comments were provided via a structures feedback form.

1. How would you rate the functionality of the equipment?

Very Poor	Poor	Fair	Good	Excellent
			3	3

➢ Automark does take a while to print out the ballot, but screen display is good.

➢ It seems to work very well. During our "playing" all worked well. I like the tape, the speed, and the lighter weight.

➢ I like the DS200, especially that it shows the voter where the error occurred on the ballot. This gives the voter more privacy and the ability to self-correct rather than having to consult with the election inspector to determine what's wrong. I also like that the system is much easier for poll workers to use, move, etc.

➢ The machines work well and are intuitive. The changes will help clerks.

➢ The [automark] properly marked all ballots. Automark is very slow process when compared to mark by hand but does serve voters that have problems using pen or sight.

2. How would you rate the accessible features?

Very Poor	Poor	Fair	Good	Excellent
		1	2	3

➢ Concerned how a person with a physical disability takes ballot from the Automark to the scanner tabulator.

➢ I think this serves the need. A person in wheelchair should be able to use DS200 although I would like to see the height of the unit a little lower so the voter can see where to put the ballot more easily.

➢ Easy to use-not much different than current equipment.

➢ There were no changes to the accessibility features and so I have no additional comments to make in this regard.

3. **Rate your overall impression of the system.**

Very Poor	Poor	Fair	Good	Excellent
		1	1	4

➢ We are waiting to upgrade to the DS200, but will not do so until we can modem results. In my case, I would have to drive to two different counties with results.

➢ I would like to see this board reconsider their view on over-riding ballots. All good parts of a ballot will also be counted on an override. But if you require a ballot to be remade, now you introduce human error at the end of a very long day.

➢ I would like the write-ins dropped into a separate bin. This will help us catch more write-ins.

➢ It is a huge improvement, which we need a.s.a.p. Please do what you can to include modem technology as it helps to simplify end of day processing, which is getting more and more demanding with requirements for provisional ballot tracking, posting of outstanding absentees, etc.

➢ GAB Board really needs to find a way to approve a modem system. Many municipalities are looking to upgrade from our old optech eagles (which have modem ability now) and are reluctant to upgrade without this feature. Approve a 3401 (modem) to be used for "unofficial results."

➢ I especially like the design of the Unity 3400. The fact that there is a not modem capability would not prohibit me from purchasing it.

➢ If modem issue is resolved with the 3401, it would be a very good system. Not sure about the cost to change our existing county wide system to this particular system, but I would be curious to know some of the costs.

➢ Great system.

APPENDIX 2: Public Demonstration Feedback
These comments were provided via a structures feedback form.

1. How would you rate the functionality of the equipment?

Very Poor	Poor	Fair	Good	Excellent
				1

2. How would you rate the accessible features?

Very Poor	Poor	Fair	Good	Excellent
				1

➢ Greatly improved functionality based on useable ink alone.

3. Rate your overall impression of the system.

Very Poor	Poor	Fair	Good	Excellent
				1