

Wisconsin Elections Commission

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Meeting of the Commission  
Tuesday, June 11, 2019  
10:00 A.M.

Agenda  
Open Session

Wisconsin Elections Commission  
212 East Washington Ave., Third Floor  
Madison, Wisconsin

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<b>A. Call to Order</b>	
<b>B. Administrator’s Report of Appropriate Meeting Notice</b>	
<b>C. Personal Appearances (Time reserved for personal appearances may be limited at the discretion of the Chair)</b>	
<b>D. Minutes of Previous Meetings</b>	<b>3</b>
<b>E. ERIC List Maintenance</b>	<b>10</b>
<b>F. Election Security Update</b>	<b>17</b>
<b>G. Voting Equipment Approval</b>	<b>25</b>
<b>H. Badger Book- Electronic Pollbook Update</b>	<b>84</b>
<b>I. Legislative Update and Agenda</b>	<b>91</b>
<b>J. Commission Staff Update</b>	<b>96</b>
<b>i. Continuation of IT Contracts</b>	
<b>ii. Voter Registration Form Redesign Project</b>	
<b>iii. Status of Results Reporting Module</b>	
<b>iv. Potential Voting Equipment Pilot</b>	

**K. Closed Session**

**1. Minutes of Previous Meetings**

**2. Wis. Stat. § 5.05 Complaints**

**3. Litigation Update**

19.851                    The Commission's discussions concerning violations of election law shall be in closed session.

19.85 (1) (g)            The Commission may confer with legal counsel concerning litigation strategy.

*The Elections Commission will convene in open session but may move to closed session under Wis. Stat. § 19.851 and then reconvene into open session prior to adjournment of this meeting. This notice is intended to inform the public that this meeting will convene in open session, may move to closed session, and then reconvene in open session. Wis. Stat. § 19.85 (2).*

# WISCONSIN ELECTIONS COMMISSION

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COMMISSIONERS

DEAN KNUDSON, CHAIR  
BEVERLY R. GILL  
JULIE M. GLANCEY  
ANN S. JACOBS  
JODI JENSEN  
MARK L. THOMSEN

INTERIM ADMINISTRATOR MEAGAN WOLFE

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**Wisconsin Elections Commission**  
State Capitol  
Madison, Wisconsin  
10:00 a.m. March 11, 2019

Open Session Minutes

Present: Commissioner Dean Knudson, Commissioner Beverly Gill, Commissioner Julie Glancey, Commissioner Ann Jacobs, Commissioner Jodi Jensen and Commissioner Mark Thomsen

Staff present: Meagan Wolfe, Richard Rydecki, Michael Haas, Sharrie Hauge, Reid Magney, Nathan Judnic, Michelle Hawley, Riley Willman and William Wirkus

**A. Call to Order**

Commission Chair Dean Knudson called the meeting to order at 10:00 a.m. and called the roll. All Commissioners were present.

**B. Administrator's Report of Appropriate Meeting Notice**

Interim Administrator Meagan Wolfe informed the Commissioners that proper notice was given for the meeting.

**C. Personal Appearances**

**Barbara Beckert** of Milwaukee appeared on behalf of Disability Rights Wisconsin and the Wisconsin Disability Vote Coalition to comment in favor of removing the requirement from state law for all voters to state their name and address to receive a ballot in person.

**Mike Johnson** of Madison appeared on his own behalf to comment in favor of removing the requirement from state law for all voters to state their name and address to receive a ballot in person.

**Martha Siravo** of Madison appeared on her own behalf to comment in favor of removing the requirement from state law for all voters to state their name and address to receive a ballot in person.

**Eileen Newcomer** of Janesville appeared on behalf of the League of Women Voters of Wisconsin to comment on issues related to the Electronic Registration Information Center (ERIC) and other items on the Commission agenda.

**Dane County Clerk Scott McDonell** appeared on behalf of the Wisconsin County Clerks Association to comment on election security efforts regarding WisVote and to urge the Commission to take a lead in ensuring transparency with voting equipment vendors.

**Karen McKim** of Waunakee appeared on behalf of Wisconsin Election Integrity to comment on membership of the clerk election security advisory committee and urge the Commission to set up a second security committee that includes security experts and voters.

## **D. Minutes of Previous Meetings**

### **1. December 4, 2018**

**MOTION:** Approve open session minutes of Wisconsin Elections Commission meeting of December 4, 2018. Moved by Commissioner Jacobs, seconded by Commissioner Glancey. Motion carried unanimously.

### **2. January 11, 2019**

**MOTION:** Approve open session minutes of Wisconsin Elections Commission meeting of January 11, 2019. Moved by Commissioner Jacobs, seconded by Commissioner Gill. Motion carried unanimously.

## **E. Election Security Update**

Security Lead Tony Bridges and Elections Specialist Riley Willman gave a presentation based on a memorandum starting on page 16 of the March 11 Commission meeting materials regarding election security. They updated the Commission on successful implementation of multi-factor authentication by the end of 2018, vulnerability scanning and other measures that addressed immediate security improvements. They also discussed the second phase of the Commission's election security planning process, which involves gathering feedback from local election officials and members of the public about their needs and ideas to improve security. Staff will be forming three clerk advisory committees to address security, training and communications. They further discussed developing ways for the Commission and local election officials to communicate with the public about election security.

Commissioner Thomsen asked for those communication efforts to also include legislators.

## **F. Election Night Reporting Research**

Senior Elections Specialist Nathan Judnic and GIS Specialist Greg Grube gave a presentation based on a memorandum starting on page 21 of the March 11 Commission meeting materials regarding staff's research on potential changes to Election Night reporting. They discussed the issues and challenges the Commission would face if it were to become involved in gathering and reporting unofficial results on Election Night. They also discussed issues with reporting absentee vote totals from Central Count facilities in Milwaukee County.

Commissioners and staff discussed the potential staff and technology costs of a statewide Election Night reporting system, issues involved with Central Count Absentee reporting, and ways staff can work with Central Count Absentee municipalities and counties to ensure timely, transparent reporting of results on Election Night.

The Commission took no action.

## **D. Minutes of Previous Meetings (continued)**

### **3. February 14, 2019**

**MOTION:** Approve open session minutes of Wisconsin Elections Commission meeting of February 14, 2019. Moved by Commissioner Jensen, seconded by Commissioner Glancey. Motion carried unanimously.

Chair Knudson called a brief recess at 11:27 a.m. The Commission reconvened at 11:35 a.m.

## **J. Legislative Update and Agenda**

At the Chair's direction, this item was taken out of order.

Elections Specialist Robert Williams made a presentation based on a memorandum starting on page 90 of the March 11 Commission meeting materials regarding pending legislation.

Commissioners and staff discussed a bill that would remove the prohibition against a voter showing his or her marked ballot to another person.

Staff Counsel Michael Haas made a presentation based on a memorandum on page 92 of the Commission's meeting materials regarding the Commission's legislative agenda. He said staff is working with the Legislative Reference Bureau on drafting legislation to accomplish the agenda. There are three items for the Commission to consider adding to its legislative agenda: an exception to the requirement that a voter state their name and address; ballot harvesting statutes; and certification deadline in absence of a potential recount.

Commissioners and staff discussed the bill to allow voters with disabilities to receive assistance to satisfy the requirement for voters to state their name and address to receive a ballot. They also discussed a bill to revise statutes regarding curbside voting to make it more consistent with the Commission's guidance.

**MOTION:** Adopt the additional items outlined above to be included in its legislative agenda and directs staff to work with the Legislature to enact appropriate statutory changes. Moved by Commissioner Thomsen, seconded by Commissioner Jensen. Motion carried unanimously.

## **G. Post-Election Audits**

## 1. Voting Equipment Audits

Elections Specialists Robert Williams and Cody Davies made a presentation based on a memorandum starting on page 35 of the March 11 Commission meeting materials regarding the final report of the post-election voting equipment audits of the November 6 General Election. Clerks audited 186 reporting units and identified no programming issues or errors and found no irregularities. More than 135,000 ballots were hand-recounted twice, which is 5.1 percent of all ballots cast. They also reported that the WEC reimbursed municipalities \$40,914 for their costs in conducting the audits. Staff's next steps will be improving the instructions provided to municipalities selected for audits and researching better ways to reimburse them.

Commissioners and staff discussed voting equipment paper jams and other issues that did not affect the vote, as well as reimbursement.

**MOTION:** Accept the final report of the 2018 Post-Election Voting Equipment Audit and direct staff to issue a news release informing the public that the audits found no problems and no fraud. Moved by Commissioner Thomsen, seconded by Commissioner Gill. Motion carried unanimously.

## N. Closed Session

Chair Knudson suggested moving to closed session in conjunction with the Commission's lunch break.

**MOTION:** Move to closed session pursuant to Wis. Stat. 19.85(1)(g) to confer with counsel concerning litigation strategy and Wis. Stat. 19.851 to discuss possible violations of election law. Moved by Commissioner Thomsen, seconded by Commissioner Jacobs.

Roll call vote: Gill:	Aye	Glancey:	Aye
Jacobs:	Aye	Jensen:	Aye
Knudson:	Aye	Thomsen:	Aye

Motion carried unanimously. The Commission convened in closed session at 12:27 p.m.

The Commission reconvened in open session at 1:19 p.m.

## G. Post-Election Audits (continued)

### 2. Discussion of Other Audit Options

Assistant Administrator Richard Rydecki and Elections Specialist William Wirkus made a presentation based on a memorandum starting on page 56 of the March 11 Commission meeting materials regarding the Voluntary County Canvass Audit Program, Risk-Limiting Audit Research and Observation, and Election Process Reviews and Audits. Nine counties conducted voluntary county canvass audits and four of them asked for reimbursement. Wisconsin election officials are not able to conduct risk-limiting audits for various reasons, but staff continues to

research them. Process audits would be a tool to help ensure standardization throughout the state.

**MOTION:** Direct the staff to continue to assist and encourage counties to conduct voluntary canvass audits, to research proposed RLA pilot models for Wisconsin, and to explore different forms and the feasibility of implementing process audits in Wisconsin. Proposals or further research for RLA pilots or process audits may be presented for consideration at future Commission meetings. Moved by Commissioner Jacobs, seconded by Commissioner Jensen. Motion carried unanimously.

## **H. ERIC List Maintenance – Next Steps**

WisVote Specialist Jodi Kitts and Elections Specialist William Wirkus made a presentation based on a memorandum starting on page 72 of the March 11 Commission meeting materials regarding the Electronic Registration Information Center (ERIC) list maintenance process.

Commissioners and staff discussed the effectiveness of postcard notifications to voters who may have moved, as well as information about how many voters used the supplemental poll lists. They also discussed staff's recommendations for how to handle the ERIC movers process in the future.

**MOTION:** Direct staff to suspend sending of any ERIC movers postcards until the next Commission meeting to reconsider it based on additional information and data analysis from staff. Postcards to eligible but unregistered voters may continue to be sent as they have previously. Moved by Commissioner Jacobs, seconded by Commissioner Thomsen.

Discussion about whether Commissioner Jacobs' motion is compatible with the recommended staff motion. Commissioner Jacobs made a new motion.

**MOTION:** Direct staff to research and begin the implementation of the proposed ERIC list maintenance process in accordance with the staff recommendations stated herein. WEC staff will report back to the Commission at its June 2019 meeting on the status of implementation, technical feasibility of the new process, feedback from local election officials, and drafting of an administrative rule/proposed statutory change for the Commission's consideration. Further direct staff not to send out any ERIC movers postcards between now and the June 11 meeting, but permit the sending of eligible but unregistered postcards. Moved by Commissioner Jacobs, seconded by Commissioner Thomsen. Motion carried unanimously.

## **I. Voter Fraud Report**

Mr. Judnic made a presentation based on a memorandum starting on page 84 of the March 11 Commission meeting materials regarding the annual Report of Suspected Election Fraud, Irregularities or Violations to the Legislature. The timeframe for this report is February 16, 2018, through February 15, 2019, and includes 23 instances that were referred to District Attorneys for further investigation.

**MOTION:** Direct Commission staff to submit the attached cover letter and report titled “Report of Suspected Election Fraud, Irregularities or Violations” to the Legislature per Wis. Stat. §§ 7.15(1)(g) and 13.172(2). Moved by Commissioner Glancey, seconded by Commissioner Gill. Motion carried unanimously.

## **K. Commission Staff Update**

Ms. Wolfe directed Commissioners to the Commission Staff Update memorandum starting on page 95 of the March 11 Commission meeting materials. She discussed the Spring Primary in February, plans for the Spring Election on April 2, and the Special Election ordered in Assembly District 64. She also discussed Badger Books, usability training from the Center for Civic Design, and Wisconsin’s early adoption of multi-factor authentication for access to the state’s voter registration system.

## **L. Governor’s Budget Update**

Ms. Wolfe and Chief Administrative Officer Sharrie Hauge made a presentation based on a memorandum starting on page 118 of the March 11 Commission meeting materials regarding the Governor’s proposed 2019-21 Biennial Budget.

Discussion.

**MOTION:** Direct staff to request a technical change to the budget to eliminate specific references to using HAVA security funds for the funding of four-year maintenance, ERIC mailings and ERIC membership dues, and further direct staff to request from the Legislature and the Governor’s office that the funding of four-year maintenance, ERIC mailings and ERIC membership dues be fully funded from GPR. Moved by Commissioner Jacobs, seconded by Commissioner Knudson. Motion carried unanimously.

## **M. Certify Candidates for Special Election in Assembly District 64**

Ms. Wolfe made a presentation based on a memorandum contained in the March 11 Commission supplemental meeting materials regarding certification of candidates for the Special Election in Assembly District 64. The four candidates recommended for ballot access are Tip McGuire, Gina Walkington, Spencer Zimmerman and Mark Stalker. Staff recommends denial for two candidates, Pedro Rodrigues and Thomas Harland, who registered campaigns but did not submit nomination papers.

**MOTION:** Certify ballot access for the four candidates listed as “approved” on the report. Moved by Commissioner Thomsen, seconded by Commissioner Jacobs. Motion carried unanimously.

## **H. Adjourn**



**MOTION:** Adjourn. Moved by Commissioner Jacobs, seconded by Commissioner Jensen. Motion carried unanimously.

The Commission adjourned at 2:50 p.m.

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The next meeting of the Wisconsin Elections Commission is scheduled for Tuesday, June 11, 2019, at the Wisconsin Elections Commission office in Madison, Wisconsin beginning at 10:00 a.m.

March 11, 2019 Wisconsin Elections Commission meeting minutes prepared by:

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Reid Magney, Public Information Officer

May 21, 2019

March 11, 2019 Wisconsin Elections Commission meeting minutes certified by:

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Julie Glancey, Commission Secretary

June 11, 2019





# Wisconsin Elections Commission

212 East Washington Avenue | Third Floor | P.O. Box 7984 | Madison, WI 53707-7984  
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## MEMORANDUM

**DATE:** For the June 11, 2019 Commission Meeting

**TO:** Members, Wisconsin Elections Commission

**FROM:** Meagan Wolfe, Administrator

Prepared and Presented by:

Connie Shehan  
WisVote Specialist

Jeffrey Harrison  
WisVote Specialist

**SUBJECT: Wisconsin’s Electronic Registration Information Center (ERIC) Movers Analysis**

This memo provides updates on the 2017 Movers List maintenance outcomes and outlines future initiatives. At the March 2019 Commission meeting, staff presented an overview and assessment of the overall ERIC process to date. Recommendations were made for improvement of Movers List data quality, mailing enhancements, and research concerning the feasibility of technical changes to the WisVote system. This report contains specific process improvements for the Movers List, changes regarding the mailing format and processes, as well as WisVote changes that are being implemented, including the addition of an ERIC Movers-related watermark to the poll book.

### **I. PAST DATA ANALYSIS**

As expected, the number of reactivations to voter records has decreased over time. The 2019 spring election cycle call-in process resulted in 20 reactivations which amounts to less than a tenth of a percent of total voters who participated in each election.

<b>Supplemental List Reactivation Data by Election</b>	<b>Number of Reactivations</b>	<b>Percentage of Election Participation</b>
04-03-2018 - Spring Election	1,333	0.131%
06-12-2018 - Special Election	16	0.041%
08-14-2018 - Partisan Primary	1,077	0.103%
11-06-2018 - General Election	3,558	0.132%
02-19-2019 - Spring Primary	7	0.008%
04-02-2019 - Spring Election	13	0.001%
<b>Total 2018/2019 Elections:</b>	<b>6,004</b>	

*Wisconsin Elections Commissioners*

Dean Knudson, chair | Julie M. Glancey | Ann S. Jacobs | Jodi Jensen | Mark L. Thomsen

Administrator  
Meagan Wolfe

Commissioners requested additional examination of the undeliverable Movers mailing. Our findings show that 73% these voters remain inactive or re-registered at a new address. Those who re-registered at a new address make up 25% of the undeliverable count and voters who remain inactive total 48%, which indicates they are no longer at the address in their voter record.

<b>Postcard was Returned Undeliverable</b>	<b>Count</b>	<b>Percent</b>
Voted at original address (excluding voters Green Bay, Hobart and Milwaukee)	4,917	6%
Undeliverable in Green Bay, Hobart and Milwaukee Bulk Reactivation	8,170	10%
Re-registered	20,637	25%
Remain Inactive	40,480	48%
Merged	9,539	11%
<b>Total Undeliverable</b>	<b>83,743</b>	<b>100%</b>

WEC staff analyzed a random sample set of 1,849 voter records from the 6,004 voters who have been reactivated through the ERIC Supplemental List process or by clerk call-ins. This data confirms that 78% of voter records have remained unchanged since the reactivation and 20% subsequently changed their voter registration address. Staff research indicated that there may have been data included in the initial file provided by DMV that included National Change of Address (NCOA) activity dates. Approximately 86,000 of the approximately 384,000 records included in the DMV In-State file correlated with these NCOA activity dates rather than individual DMV customer-initiated transactions. The ERIC Membership Agreement requires DMV and NCOA to individually submit customer-initiated transaction data as part of the match process. We have requested NCOA address run dates from DMV and going forward staff will use this information to filter data.

DMV has been supportive in its willingness to investigate our inquiries. Its audit logs have confirmed that customers who used the ERIC Supplemental List process also updated their address at DMV branches or on its website. Some customers listed the new address on a vehicle registration form, initiated changes at the DMV Service Center, or listed it at a dealership when they were purchasing a vehicle. Vehicles can be registered at a workplace or other location where the vehicle is kept, which did not correspond with a primary residence as the voter record does. These circumstances could present variations in matching records.

<b>Sample Set Findings</b>	<b>Count from Sample Set</b>	<b>Percent</b>
No Change to Voter Record	1,442	78.0%
Registered at New Address	370	20.0%
Address adjusted after re-activation	22	1.2%
Inactive - Moved, Felon or 4 Year Maintenance	8	0.4%
Typo	7	0.4%
<b>Total Records in Sample Set:</b>	<b>1,849</b>	<b>100.0%</b>

Of the sample set studied 20% registered at a new address and staff verified that 70% of those currently have the same address as their DMV file. This list was generated a year and a half ago, therefore, we recognize that voters may have had additional changes since then.

<b>New Registration Matches DMV Address</b>	<b>Count from Sample Set</b>	<b>Percent</b>
Yes	212	70%
No	90	30%
<b>Grand Total</b>	<b>302</b>	<b>100.0%</b>

### **Recommendations for Future Data Analysis**

Based on the data presented above, staff has been looking for ways to further improve the match process to ensure the most accurate information. Communication with ERIC regarding data anomalies and the ability of WEC staff to proactively verify data prior to reaching out to voters with a focus on addresses that include PO Boxes or matches such as 1<sup>st</sup> vs. First has made an impact on data quality. Due to a recently completed transaction date analysis of the DMV file, staff recommends the omission of the NCOA activity dates from the DMV file to comply with the ERIC Membership Agreement and to further improve data quality for future mailings. The ERIC Agreement requires DMV to submit a list of all customer addresses. It further requires WEC to use only “customer-initiated” transactions. Therefore, DMV will continue to submit its full list of changes to ERIC and they will provide a list of NCOA batch validation dates to WEC staff so they can be filtered once ERIC provides WEC with the final data.

Going forward, WEC staff proposes to flag voter records involved in the Movers process, rather than perform a deactivation, as explained in the Future Plans section below. This change will allow WEC and clerks to validate information and establish contact with voters, as needed, before any deactivation occurs. The mailing and a watermark in the poll book would be the most effective methods to determine if voters have changed their residential address.

## **II. FUTURE ERIC PLANS**

The ERIC Membership Agreement requires that participating states reach out to voters appearing on the list maintenance reports at least once a year. As an overview, staff recommends continuing to send postcards to voters identified by ERIC as in-state Movers each year. However, instead of deactivating their voter registrations within approximately 30 days under Wis. Stat. § 6.50(3), deactivation would take place between 12 months and 24 months, giving the Movers a chance to vote in both the General and following Spring Election. To reiterate the process provided in the March ERIC memo, this means voters who receive the Movers postcard in the summer of 2019 would be able to affirm their registration, either by responding to the postcard or in-person at a polling place, until the summer of 2021, giving them an extended deadline of six elections to take action (Feb, April, August and November of 2020 and February and April of 2021).

Staff will begin compiling the Movers data in the beginning of July, with an eye towards sending the postcards in mid to late August 2019. This mailing is authorized to be forwarded by the Post Office.

This timeline allows flagged voters time to affirm their registration at their current address, or reregister at a new address, well in advance of the 2020 election cycle. Voters who receive the Movers postcard in the summer of 2020 would also be able to affirm their registration until the summer of 2021, giving them four elections to take action (August and November of 2020 and February and April of 2021). Postcards returned as undeliverable would be noted by clerks in WisVote as undeliverable for data gathering purposes, but the voter would otherwise continue to follow the same procedure as any other voter identified as an in-state mover and their registration would remain active until the deadline for in-state mover deactivation 12-24 months later.

The Movers postcard itself will be the subject of a comprehensive review, both in design and content. The goal of the redesign is to make a more substantive and useful mailing, while reducing voter confusion. Updates will include artwork/layout changes to attract attention as well as more concise information on reregistering and directing recipients to MyVote to complete an online affirmation to continue their registration. A voter flagged as a mover, will have the opportunity to go to MyVote, verify their name and date of birth for security purposes, then enter their unique affirmation code included with their mailing. This process will provide a method by which the voter can affirm their address online and will direct Movers to a secure place to update their registration information.

In addition to the Movers postcard improvements, staff proposes changes to the printed poll book and WisVote as well. Voters identified as Movers, but who have not taken any action in response to the postcard mailing, will have the status of "Active-Movers List" in WisVote. Voters with the status of "Active-Movers List" continue to appear in the poll book until the summer after a General Election. This means the voter would have the opportunity to affirm or register in as few as four and as many as six regularly scheduled elections. A watermark would appear in the signature block of the poll book with a "Movers List" designation. This watermark triggers the election inspector to ask the voter if they have moved. If the voter has indeed moved, they have the option to register at their new address. If the voter has not moved, they would sign the poll book and continue with the voting process. Poll worker instructions with a sample poll book watermark and a flow chart of the Movers List process are included with this memorandum.

Executing an affirmation or change of address will update a voter's status from Active-Movers List to Active-Registered automatically in the WisVote system when voter participation is entered. This will save extra steps for the clerk and help maintain accurate voter records. An identifying address field will also be added to the database to help track and analyze address history. Undeliverable postcards can be marked by clerks in WisVote as undeliverable for data gathering purposes.

Staff recommends that voters identified through the list provided by ERIC as having registered in another state be deactivated under the authority of Wis. Stat. § 6.36(1)(d). The source of the data regarding voter registrations is the individual states which received and processed those voter registrations. ERIC acts as a conduit to other members states by analyzing and condensing the data and then sending the data on to only those states where the identified individual had a previous registration.

For the purposes of this process, staff is relying on Wis. Stat § 6.361(1)(ae) compelling adherence to the ERIC membership agreement, Wis. Stat. § 6.50(3) which authorizes changes to voter registration status based on reliable information, and Wis. Stat. § 5.05(15) which makes WEC responsible for voter list maintenance. Neither the ERIC enabling statute, nor the ERIC Membership Agreement establish

specific procedures or timelines for inactivating a registration of a voter who appears on the Movers List. The Legislature certainly may also establish a different approach with more specific procedures.

Prior to implementation, staff will conduct usability testing encompassing both clerk committees and public sampling. Through this process, best practices will be determined, and a comprehensive training plan will be developed. Posted clerk communications will continue throughout the year to keep clerks informed regarding mailings, deadlines, and checklists. In addition, staff will host a webinar in January 2020 ahead of the election cycle, as well as make materials available in the WisVote Learning Center.

### **Final Summary**

The 2017 Movers mailing brought about many opportunities to align processes and review the entire active voter list. For the next Movers mailing, WEC staff now has a more refined process to review data and conduct voter outreach which is informed by lessons learned from experience and a deep dive into data analysis. Mailing and technical enhancements will be aimed at improving voter interactions and ease of use. Options available in MyVote will allow voters the opportunity to go online to affirm or update their voter registration information, which will create a much more efficient process for voters and clerks. Clerks' processes will be made easier through the implementation of automatic voter status updates at the time that election participation is entered. The poll book watermark allows a means of flagging voters without taking additional poll book space or requiring a supplemental section. New discoveries in data review will provide a better understanding of the data going forward and the ability to take a proactive approach to screen data before mailings are initiated. While there has been a learning curve due to the nature of the ERIC processes and the unique structure of election administration in Wisconsin, WEC staff looks forward to facilitating improved voter data quality while assisting clerks with efficient processes in keeping records current and serving voters with a balanced approach.

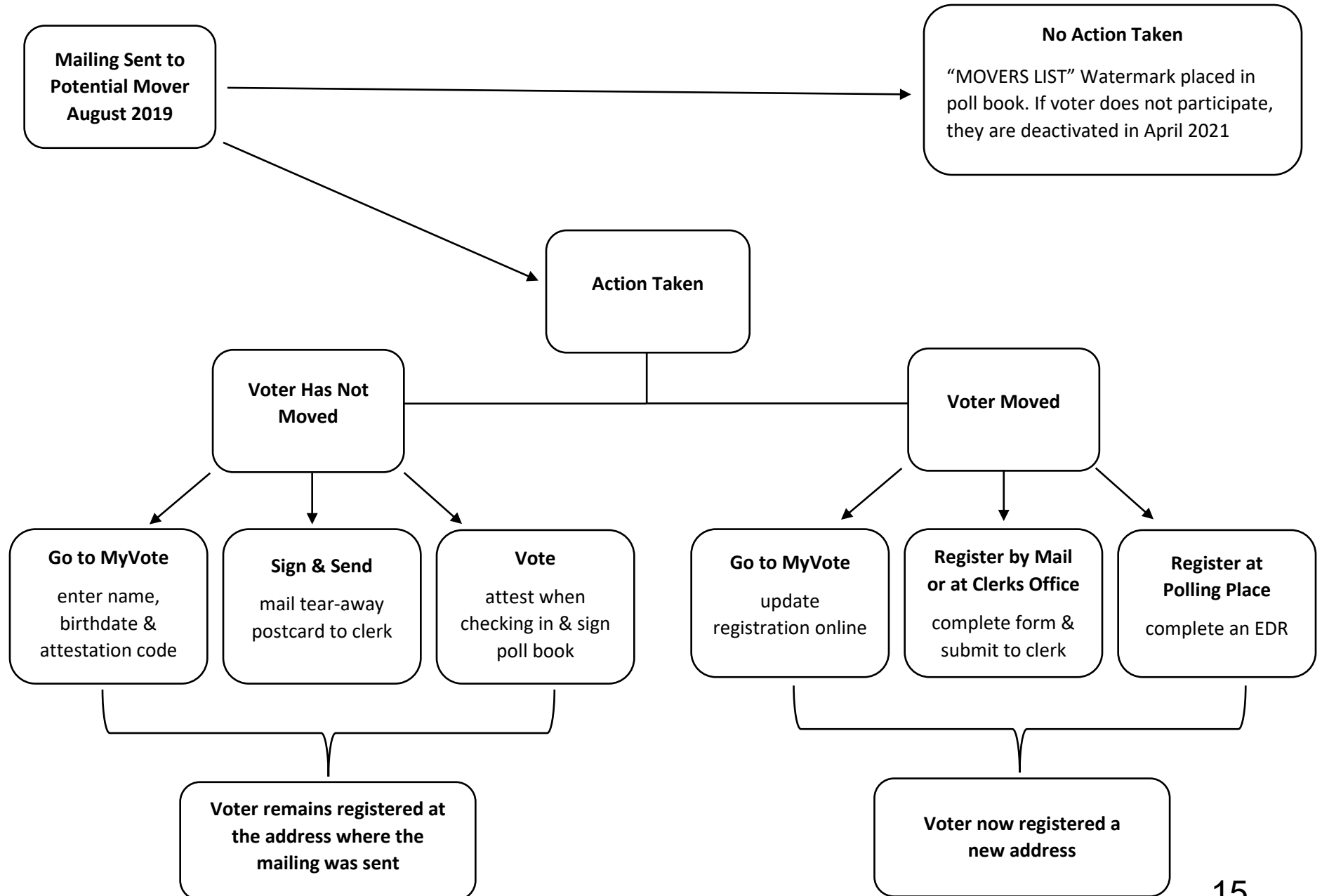
### **Recommended Motion:**

Authorize staff to flag files of voters rather than deactivating voters who do not respond to a Movers mailing after 30 days; go forward with WisVote, poll book and MyVote updates; and assess new data before initiating future mailings.

Attachments: A. Poll Worker Instructions for Movers at the Polling Place  
B. Movers Mailing Flow Chart



# WEC Movers Mailing Process





## Poll Worker Instructions for Voters with “Movers List” Watermark

Voters identified as part of the Movers mailing will be sent postcards advising them to register at their new address or to sign and return the postcard, if they have not moved. We anticipate some postcards will be returned undeliverable. Instead of deactivating flagged voter records, a watermark will be added to the printed poll books to identify voters who were sent a postcard but did not re-register or respond.

The following steps are in-addition to existing voter check-in procedures on Election Day:

1. If the voter poll listing includes an “**Movers List**” watermark, ask the voter if they have moved and/or not registered at their new address (here’s a sample of what it will look like):

The image shows a sample of a voter poll listing. It includes the following information: BS 01, 0002394397, Cape, Cheri Constance, 141 MAIN ST APT 419, RACINE, WI 53403, and a barcode. A watermark reading "MOVERS LIST" is visible in the background. The number "34" is written in blue ink. The name "Cheri Constance Cape" is printed upside down on the right side. The number "10" is printed on the right side. The word "Notes:" is at the bottom left.

- a. If the voter confirms they have moved and they are not registered at their new address, have the voter complete an Election Day Registration (EDR).

**The address on a voter’s POI (photo ID) should not be checked against their listed address!**

2. If the voter indicates they have not moved, or have registered at their new address, continue with the check-in processes.
  - a. Voter states address, and if there is no change, continue the check-in process.
  - b. If the voter now states they have changed their voting address, have the voter complete an EDR.
  - c. If the voter indicates there is a typo in their address, but they have not moved, follow existing procedures for noting address corrections in the poll book.
3. Have the voter sign the pollbook.
  - a. If the voter completes an EDR, have them sign in the supplemental section – do not have them sign next to their poll book entry.
  - b. If the voter did not complete an EDR, have them sign next to their name in the poll book; over the watermark.

**\*\* This document is a draft – along with yet to be determined in-person absentee procedures – pending clerk and poll worker usability feedback.**





# Wisconsin Elections Commission

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**DATE:** For the June 11, 2019 Commission Meeting

**TO:** Members, Wisconsin Elections Commission

**FROM:** Meagan Wolfe  
Administrator, Wisconsin Elections Commission

Prepared and/or Presented by:  
Tony Bridges, Election Security Lead  
Michelle R. Hawley, Training Officer  
Riley Willman, Election Administration Specialist

**SUBJECT:** Elections Security Staff Update

## **I. Introduction**

The evolution of election security threats and vulnerabilities will demand that we remain cognizant of a changing environment and vigilant with our election security initiatives. WEC initiatives to safeguard Wisconsin elections will continue to emphasize strong relationships and open lines of communication with local, state, and national election officials and security partners. WEC staff continues to remain vigilant in our preparations as we move closer to 2020 ensuring that we are planning, updating, and implementing internal technical controls that secure access to WisVote and other critical systems. Our current projects focus on identifying and providing resources to counties and municipalities to help ensure the security of their elections systems and expanding our public outreach efforts to increase public awareness and confidence in the election process.

## **II. Clerk Advisory Committee Update**

Since the March 11 Commission meeting, WEC created three separate advisory committees consisting of clerk representatives from the Wisconsin County Clerks Association, the Wisconsin Municipal Clerks Association, the Towns Association, and clerk-members serving in an at-large capacity. A committee was created specifically committed to election security. The initial meeting of the security committee occurred on March 26, 2019 and was used as an opportunity for the WEC staff to inform the clerk committee members about security projects and initiatives planned for 2019. During the meeting clerks also discussed current security concerns and current security practices. The concepts discussed during the meetings are discussed in the remainder of this memorandum.

*Wisconsin Elections Commissioners*  
Dean Knudson, chair | Julie M. Glancey | Ann S. Jacobs | Jodi Jensen | Mark L. Thomsen

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Administrator  
Meagan Wolfe

## **A. Hardware Assurance Concept**

The single most significant improvement that could be made to the security of Wisconsin elections systems is to ensure that user systems always remain up to date with the latest security hardware and software. In the lifecycle of a security vulnerability, the most dangerous period is the time between when the vulnerability becomes publicly known, and when the fix is applied by the end user. Despite media reports focusing on hacker groups and intelligence agencies hoarding secret vulnerabilities called “0-days,” the overwhelming majority of successful cyber-attacks use well-known vulnerabilities for which security patches have been available for months or even years.

Unfortunately, many of the users of the WisVote system work for local jurisdictions that operate under significant resource constraints. Some users are required to use systems that are years out of date, for which patches are no longer issued. Others are not provided a device at all and use personal or shared devices to access WisVote. Many more have more recent computers yet lack the skills and resources to keep up with the frequency with which new patches are released.

As part of the second phase of the WEC’s security implementation plan, staff has devoted significant research time to developing solutions for this situation. Based on that research, and in consultation with the Clerk Advisory Committee on Security, staff proposes the following plan:

1. Conduct a formal needs assessment. Develop or procure a simple and user-friendly method that allows clerks to scan their systems for compliance within agency security recommendations and provide a report to the WEC.
2. Provide a low-cost managed device to users with demonstrated need. Managed devices, where the device is controlled, patched, and secured from a central location, are common in enterprise environments. The challenge presented here is that clerks do not fall within a single enterprise. Staff has been researching distributed managed solutions and believes that a solution can be procured for a reasonable price and within a reasonable timeframe. Jurisdictions that are not able to bring their systems into compliance would be offered a device procured and managed by the WEC, with the requirement that their municipality must budget a replacement device by the device’s expected end-of-life (typically 4-6 years). Clerks who received these devices would be required to use them for all elections purposes and prohibited from using them for non-governmental purposes.
3. Work with jurisdictions to reach viable solutions. A standard managed device is unlikely to work for every scenario. Given the wide variety of working environments experienced by clerks, we anticipate that staff will need to work with some clerks to find alternative solutions. Staff therefore recommends reserving funds to be used for cash grants on an as-needed basis.

This proposal and some alternatives were brought to the clerk security committee on May 8. All of the members were in favor of an assessment of existing cyber security readiness, as well as the proposal to provide resources to local jurisdictions so they could meet essential security best practices. The members were split about which option was best, a managed device or providing a grant. Some members expressed that the managed device solution was not flexible enough to meet the needs of all localities. These clerks raised concerns regarding the variety of working conditions in different

jurisdictions and indicated that a cash grant option was better suited to the myriad of ways elections are run in Wisconsin. Based on this feedback, staff proposes that managed devices be provided, but that an exception policy be created to allow cash grants for jurisdictions to obtain similarly secure systems that better meet their unique needs. The WEC may facilitate this option by listing suggested hardware and software options for municipalities.

This initiative would provide the WisVote user base with devices that are secure, patched, and capable of meeting elections-related needs. Staff believes that this need can be met by low-cost devices, in conjunction with cloud-based management and office productivity software, an arrangement commonly referred to as a “netbook.” These devices reduce hardware costs by offloading storage and processing tasks to cloud-based systems. While there are new security concerns raised by offloading these needs to the cloud, staff intends to mitigate these concerns by requiring vendors to use cloud systems that meet the stringent FedRAMP<sup>1</sup> security requirements used by the federal government for procuring cloud services. These devices commonly have retail prices between \$250 and \$500 and may or may not include the cost of cloud services. It is expected that some cost savings would be possible through bulk purchasing.

The cost for this program would be covered by the 2018 HAVA grant for elections security. As this is a one-time grant of funds that cannot be expected to be replenished, care must be taken not to trap users into a system that would make it harder for them to replace in the future. Also, staff hopes to be able to prevent a situation where in 10 years, clerks find themselves using outdated equipment provided by this program. Therefore, an important part of this proposal is working with clerks and their governing bodies to ensure that future replacement costs are budgeted. The anticipated low cost of these systems should help with this issue.

A more accurate financial estimate will be available when the assessment of need is complete. However, during the planning stages two approximate values were calculated:

- In the worst-case scenario, every municipality receives a managed device at a cost of \$500. With 1,850 municipalities, that would be an upper bound of \$925,000.
- In the more likely scenario, devices would only be provided to municipalities without the means to procure their own. Until the assessment is complete this number is uncertain, but a rough estimate can be calculated based on population size. Many larger municipalities will also need assistance, but many of the smallest municipalities do not provide their own WisVote services. As a proxy for need, the number of municipalities with fewer than 1,000 registered voters was selected. As of May 1, there were 1,303 municipalities meeting that criteria. With 1,303 municipalities and selecting a median cost point of \$350 per device, that would be an anticipated program cost of \$456,050.

It is imperative that this program be able to proceed swiftly and with agility to ensure secure devices are in place in time for the 2020 election cycle. Therefore, despite the anticipated cost being less than half

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<sup>1</sup> The Federal Risk and Authorization Management Program (FedRAMP) is a government-wide program that provides a standardized approach to security assessment, authorization, and continuous monitoring for cloud products and services. For more information see [www.fedramp.gov](http://www.fedramp.gov).

that of the worst case, staff recommends approving the full worst-case amount to enable staff to remedy unexpected situations as the program develops. WEC staff will keep the Commission apprised as estimates are refined and actual expenses are incurred.

## **B. Regional IT Support Model**

Municipal clerks in Wisconsin have access to widely varying, and sometimes inadequate, levels of IT support. Given the varying degrees of IT resources available to local election officials, this proposal is to implement a cooperative or consortium of sorts, at a regional level, that would allow participating municipalities or counties to pool information and resources, specifically related to IT support/security. WEC staff offered the following potential ideas for discussion at the last Clerk Advisory Committee on Security:

Providing IT support to municipalities and counties that may not have dedicated IT resources and/or support.

1. IT professionals may provide general IT support such as performing health checks, installing patches, and ensuring devices are running up to date operating systems, software, browsers, etc.
2. IT professionals may be contacted to provide support of cyber related incidents.
3. Membership with EI-ISAC for receipt of notifications and to help ensure IT and/or security related information sharing.
4. Cost-sharing model with the expectation of future sustainment by the members.
5. WEC potentially provides initial funding assistance with stipulation of independent sustainability by members.

Discussion resulting from this idea concluded that most committee clerks did not have much exposure to such a model. WEC staff requested any committee clerks with information about communities currently using a similar model to contact Robert Kehoe or Tony Bridges with that information to help facilitate additional research by WEC staff. Similar to the Hardware Assurance Concept, the WEC currently has HAVA funds available to perhaps aid with such a model, but the requirement for future sustainability by the members of the cooperative will be necessary.

WEC staff believes this initiative has the potential to dramatically improve the security posture of Wisconsin elections, and additional research and consideration is still necessary to formulate a concrete proposal. Additionally, it is possible that some of the need for this initiative will be alleviated by the managed device proposal.

This concept is consistent with other initiatives in the state enterprise. Specifically, the Division of Enterprise Technology at the Department of Administration, in conjunction with Wisconsin Emergency Management, has been advocating for ways to improve the security and regional support for local governments. WEC staff intends to discuss how the agency may be able to contribute to existing

initiatives as well as ensure that agency needs are met.

### **C. Public Outreach Initiative**

According to the U.S. Election Assistance Commission's (EAC) website which tracks and displays states' security planning efforts, multiple states have earmarked portions of their 2018 election security HAVA funds to launch professionally created public information campaigns about election security. These states produced many forms of creative material that covered a range of topics including voting equipment security, recognizing misinformation, reiterating the importance of having an auditable paper ballot, and more. WEC staff, with the input of the Clerk Advisory Committee on Security, believes that a professional public information campaign would effectively communicate election security measures in Wisconsin, and help combat inaccurate or misleading information now and in the future.

Both WEC staff and members of the clerk advisory committee expressed concerns about public perception of election security. Due to each individual state having its own election system, every state has implemented its own unique security initiatives. Explaining these unique security structures to voters in a resonate way can be difficult. When reported security issues occur in another state, voters may believe that it also affected Wisconsin's election system. To combat this, the WEC consulted with the clerk advisory committee on security to discuss the current issues they face concerning election security. Members shared that they have frequently presented the many different security measures that Wisconsin has in place that ensure a voter's ballot is counted how it was intended, but still noted an issue with combatting an outside misunderstanding of election security in Wisconsin. Clerk members also identified a general lack of experience with working with the media as an issue specifically for clerks and their staff. WEC staff asked clerk members to discuss what could help Wisconsin voters become more aware of election security practices and efforts in Wisconsin. In particular, the clerks wanted the program to:

1. Highlight security measures already in place in Wisconsin, such as how voting equipment is secured, accuracy is verified, and the voter registration system is protected.
2. Dispel common misconceptions held by voters, especially highlighting ballot security and tallying.
3. Provide digital media options for social media and locality websites, without neglecting voters who do not use social media or frequent governmental websites.
4. Expand and rebrand the toll-free hotline the agency provides as part of its obligations under HAVA to include election security topics.
5. Include media training for clerks and their staff to better handle media inquiries and outreach.

WEC staff has significant experience working with advertising agencies and media companies to create and manage a statewide public information campaign from the Bring It to the Ballot campaign for Wisconsin's voter photo ID requirement. Similarly, the goal of an election security public information

campaign and clerk media training would be to increase public awareness of the election process. Additionally, this campaign would help the public understand what election officials at all levels are doing to keep elections secure in Wisconsin.

WEC staff discussed the costs associated with creating and distributing a 2019/2020 public information campaign, in a similar fashion to the photo ID public outreach campaign, and receiving assistance with media training. Based on previous campaigns and current information, staff believes the first step would be to solicit bids from advertising agencies to develop a multi-phase campaign. The first phase of the campaign, including statewide qualitative research and core messaging creation, would cost not more than \$260,000. Subsequent phases of the campaign may be evaluated by the Commission sequentially. Total cost of a basic campaign involving social media, digital ads and videos could cost an additional \$400,000 to \$500,000.

This amount is consistent with other states' election security communication expenditures as reported to the EAC via funds request documents and detailed narratives describing the proposed spending plans. As a first step, staff requests authorization to receive bids from advertising agencies to gather market research and to develop an initial program at a total cost of not more than \$260,000. The 2018 HAVA funds for election security will cover this estimated amount.

In addition to the professional public information campaign and media training efforts, WEC staff intends to prepare an outreach kit for municipal and county clerks to help them publicize general election security facts and figures through traditional and online media in their communities. This kit would also be available for the use of third-part voter outreach groups, parties, campaigns, and candidates. Communicating the election security improvements made in 2018 and planned projects ahead of the 2020 election season will further increase the level of confidence Wisconsin voters have in elections and in their local election officials.

#### **D. Additional Training Opportunities for Clerks**

WEC staff offered to compile and disseminate additional security related training opportunities for clerks. After a brief discussion, the consensus was that the opportunities are welcomed. WEC staff will follow up to ensure clerks have access to the resources recommended by WEC management and the election security team.

#### **E. Security Assessments**

This project aims to connect local election officials with the Department of Homeland Security (DHS) (or other state/federal agencies) to conduct assessments (i.e., system assessments, threat detections, etc.) in an effort to identify and remedy any potential vulnerabilities with the intention of ensuring the security of elections related systems and data.



Discussion about the proposal resulted in clerk committee members favoring the initiative. A recap of some specific discussion highlights:

1. In-person Risk & Vulnerability Assessment conducted by DHS for the WEC took two weeks.
2. Several different remote assessments are available and recommended by WEC staff.
  - a. Architecture analysis
  - b. Phishing assessments
  - c. Vulnerability scans
3. Assessments are intended to be informational in nature and not a judgment of past efforts. They identify vulnerabilities that are often obscure or otherwise be hard to detect.
  - a. DHS will work closely with municipalities and test only what is requested – based on needs and desires of the customer
  - b. Trusted and reliable assessment

WEC staff will compile a list of assessments and contact information for DHS to disseminate to the advisory committee and other local election officials. Additionally, staff hopes to be able to work with DHS in order to streamline the application process for these assessments. Currently completing an application requires a degree of technical knowledge that clerks may not possess. Simplifying or providing clear directions for these forms will be an essential part of ensuring the widest possible adoption of the assessments.

The WEC will convene its next meeting of the Clerk Advisory Committee on Security on Wednesday, June 12, 2019 and will update the Commission about its progress at future commission meetings.

### **III. Local Election Official Security Training**

In preparation for the 2018 elections, WEC staff consulted with local elections officials and created an extensive outreach and training plan concerning election security. The plan yielded an election security tabletop training exercise (TTX), a communications guide template, and an election day emergency response plan template. All of these materials continue to be accessible to clerks on the WEC Learning Center website. The goal of the TTX, communications guide template, and contingency plan template was to assist local election officials assess the effectiveness of existing election security policies and practices, to increase awareness by providing a high-level overview of election security realities, and to encourage implementation of election security best practices for increased preparedness and effective communication during an incident. Since its inception, WEC staff, in conjunction with Regional Trainers, have provided this training to more than 1,200 Wisconsin election officials.

Given the program's popularity and overwhelmingly positive feedback, WEC staff is in the process of developing TTX 2.0 with the expectation that the new version will be completed by June 28, 2019. WEC staff intends to conduct another train-the-trainer series during the summer months to share and demonstrate the new version with current Regional Trainers. In addition, staff continues to solicit for additional Regional Trainers to ensure this valuable training is available throughout the state.

During the last year, WEC staff have received numerous inquiries about the TTX program and requests for additional information and/or to observe an event. On June 5, 2019 from 8:30 a.m. to 12:30 p.m., the WEC will hold an Election Security Tabletop Training Exercise (TTX) in Madison. The TTX will be a live event open to WEC's state and federal election security partners, other national and state officials, and the commissioners.

#### **IV. Recommended Motions**

WEC staff recommends the Commission approve the following actions:

**MOTION #1:** The Commission directs staff to develop a program to ensure all users of Wisconsin's voter registration database use hardware and have support to maintain compliance with WEC baseline security standards. The total cost for the program shall not exceed \$925,000 and will be paid for out of the 2018 HAVA grant for election security.

**MOTION #2:** The Commission directs staff to seek proposals and award a contract for research and development of a public information campaign to educate the public about Wisconsin election security at a total cost not to exceed \$260,000, which will be paid for out of the 2018 HAVA grant for election security. Following research and development of a campaign, staff will seek Commission approval for additional expenditures to implement the campaign.



# Wisconsin Elections Commission

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## MEMORANDUM

**DATE:** For the June 11, 2019 Commission Meeting

**TO:** Members, Wisconsin Elections Commission

**FROM:** Meagan Wolfe  
Administrator

Prepared and Presented by:

Robert Williams	Cody Davies
Elections Specialist	Elections Specialist

**SUBJECT:** Election Systems and Software (ES&S)  
Petition for Approval of Electronic Voting Systems  
EVS 5.2.4.0 and EVS 5.3.4.0

### **I. Introduction**

Election Systems and Software (ES&S) is requesting the Wisconsin Elections Commission (“WEC” or “Commission”) approve the EVS 5.2.4.0 and EVS 5.3.4.0 voting systems for sale and use in the State of Wisconsin. These systems are an update of EVS 5.2.2.0 and EVS 5.3.2.0, systems that were approved for use in Wisconsin by the Commission on June 20, 2017. The Government Accountability Board originally approved the EVS system, with EVS 5.2.0.0 and EVS 5.3.0.0, on September 4, 2014. No electronic voting equipment may be offered for sale or utilized in Wisconsin unless first approved by the WEC based upon the requirements of Wis. Stat. § 5.91 (Appendix A). The WEC has also adopted administrative rules detailing the approval process in Wis. Admin. Code Ch. EL 7 (Appendix B).

#### **A. EVS 5.2.4.0**

EVS 5.2.4.0 is a federally tested and certified paper based, digital scan voting system powered by the ElectionWare software platform. It consists of eight major components: an election management system (EMS) server; an EMS client (desktop and/or laptop computer) with election reporting manager (ERM) software; the ExpressVote, an Americans with Disabilities

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Act (“ADA”) compliant vote capture device for a polling place; ExpressLink, a ballot activation code application and barcode printer combination for ExpressVote ballots; the AutoMARK, an Americans with Disabilities Act compliant ballot marking device for a polling place; the DS200, a polling place scanner and tabulator; the DS450, a mid-range scanner and tabulator for a central count location; and the DS850, a high-speed scanner and tabulator for a central count location.

Updates to the previously approved system include:

- Updated Electionware audio prompts for enhanced support of ADA voting with binary tactile device.
- New hardware version for ExpressVote, v. 2.1, which addressed end-of-life component issues.
- Resolved an issue that would truncate long candidate names instead of displaying the names in their entirety.
- New configuration options for ExpressVote, including the ExpressVote Single Table, Double Table, MXB Voting Booth, and Quad Express Cart.
- A collapsible ballot box for the DS200.

A full list of the updates to the system can be found in the U.S. Election Assistance Commission’s Scope of Certification document found in Appendix C.

#### B. EVS 5.3.4.0

EVS 5.3.4.0 is a federally tested modification to the EVS 5.2.4.0 voting system. The modification provides support for modeming of unofficial election results from a DS200 to a Secure File Transfer Protocol (SFTP) server through public analog or wireless telecommunications networks after the polls close on Election Day. The modeming components of EVS 5.3.4.0 cannot meet federal certification standards, but the underlying voting system (EVS 5.2.4.0) is federally certified. At its May 21, 2013, meeting, pursuant to authority granted in Wis. Stat. § 5.91 and Wis. Admin. Code EL 7, the Government Accountability Board adopted testing procedures and standards pertaining to the modeming and communication functionality of voting systems that have not received EAC certification. The standards were based upon the analysis and findings outlined in a staff memorandum and detailed in the *Voting Systems Standards, Testing Protocols and Procedures Pertaining to the Use of Communication Devices in Wisconsin*, which are attached as Appendix D. These rules apply to non-EAC certified voting systems, where the underlying voting system received EAC certification to either the 2002 Voting System Standards (VSS) or 2005 VVSG, but any additional modeming component does not meet the 2005 VVSG.

Updates to the previously approved system include:

- Wireless modems for unofficial results transmission upgraded to 4G technology.

## **II. Recommendation**

WEC staff is recommending approval of both the EVS 5.2.4.0 and EVS 5.3.4.0 for sale and use in Wisconsin. Detailed recommendations are listed on pages 25 through 27 following the analysis of functional testing performed by WEC staff.

## **III. Background**

On September 11, 2018, WEC staff received an Application for Approval of EVS 5.2.4.0. 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 EVS 5.2.4.0. At the same time, ES&S requested WEC staff approve the EVS 5.3.4.0 voting system. ES&S submitted technical manuals, documentation, and instruction materials necessary for the operation of EVS 5.3.4.0.

### **A. EVS 5.2.4.0 (base voting system)**

The Voting System Test Laboratory (VSTL) responsible for testing EVS 5.2.4.0, Pro V&V, recommended on May 30, 2018 that the U.S. Election Assistance Commission (EAC) certify ES&S EVS 5.2.4.0. ES&S provided the Pro V&V report to WEC staff along with the Application for Approval of EVS 5.2.4.0. Voting systems submitted to the EAC for testing after December 13, 2007, are tested using the 2005 Voluntary Voting System Guidelines (2005 VVSG). The EAC certified ES&S EVS 5.2.4.0 on June 5, 2018 and issued certification number **ESSEVS5240**.

WEC staff conducted the voting system testing campaign for EVS 5.2.4.0 on April 8-12, 2018 in the WEC office. The campaign consisted of functional testing using three different mock election configurations, a meeting of the Wisconsin Voting Equipment Review Panel (a body that consists of local election officials and voting and disability advocates), and a public demonstration of the system.

#### **i. Hardware Components**

ES&S submitted the following equipment for testing as part of EVS 5.2.4.0:

<i>Equipment</i>	<i>Hardware Version(s)</i>	<i>Firmware Version</i>	<i>Type</i>
DS200	1.2.1 1.2.3 1.3	2.12.2.0	Polling Place Digital Scanner and Tabulator

DS450	1.0	3.0.0.0	Mid-range Central Count Digital Scanner and Tabulator
DS850	1.0	2.10.2.0	High-speed Central Count Digital Scanner and Tabulator
AutoMark Voter Assist Terminal (VAT)	1.0 1.1 1.3	1.8.6.1	Ballot Marking Device
ExpressVote	1.0	1.4.1.7	Universal Voting System

The following paragraphs describe the design of the EVS 5.2.4.0 hardware taken in part from ES&S technical documentation.

1. DS200

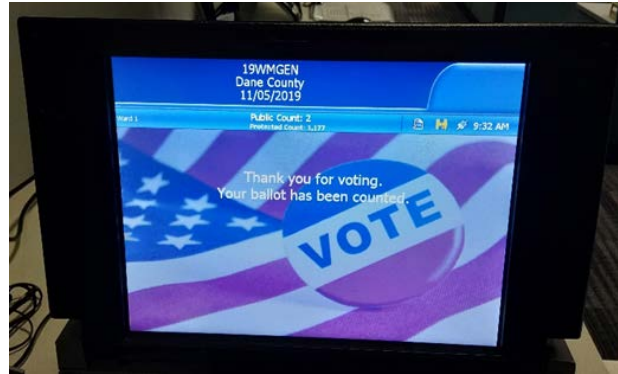
The DS200 is a digital scan paper ballot tabulator designed for use at the polling place. After the voter marks a paper ballot, their ballot is inserted into the unit for processing. The tabulator uses a high-resolution image-scanning device to simultaneously image the front and back of the ballot. The resulting ballot images are then processed by proprietary mark recognition software, which identifies and evaluates marks made by the voter. The system then tabulates any votes cast on each ballot before depositing the ballot into an integrated secured storage bin. The ballot images and election results are stored on a USB flash drive that can be removed. This USB flash drive may be taken to the municipal clerk’s office or other central office where the ballot images and election results may be uploaded into an election results management program or transferred to another memory device or machine to facilitate storage. The DS200 does not store any images or data in its internal memory.



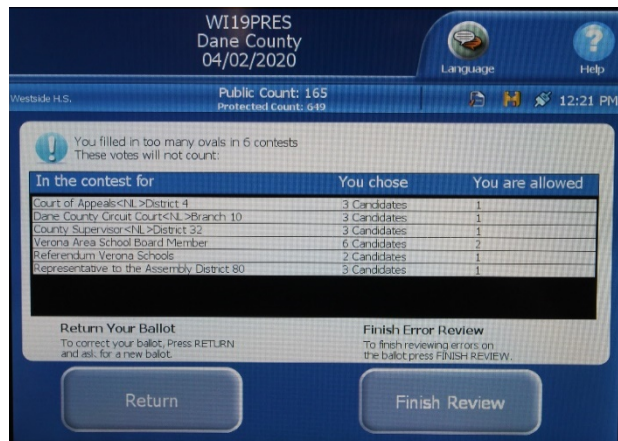
**Voter Information Screens:** The DS200 features a 12-inch touchscreen display to provide feedback to the voter regarding the disposition of any ballot inserted into the machine. The screens are designed to alert voters to errors on their ballot. The DS200 will, depending on the situation, provide details about the error, identify the specific contests where the errors occurred, allow the ballot to be returned to the voter, and provide the option for the voter to

cast the ballot with errors on it. In two scenarios, the machine will not let the voter cast a ballot and will only return the ballot to the voter. A ballot that has unreadable marks on it will not be accepted by the machine and the DS200 will automatically return ballots if a voter attempts to insert multiple ballots into the machine at the same time.

- **Ballot Counted:** If the ballot is scanned and accepted by the machine, a message appears that states the ballot has been counted.

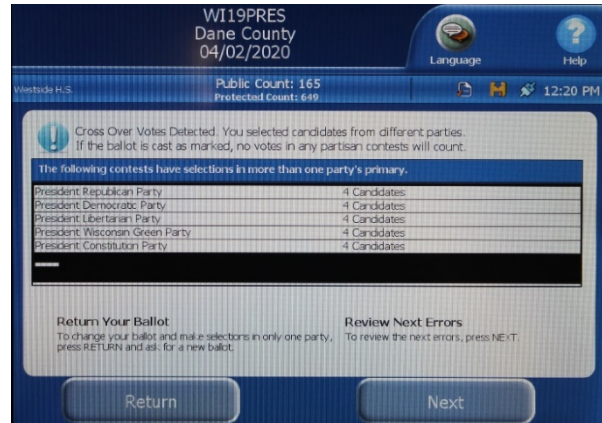


- **Overvote Notification:** If the ballot contains an overvote, a message appears that identifies the contest or contests with overvotes. The message also tells the voter that these votes will not count. The language displayed in this notification reflects the requirements as laid out by the Commission.



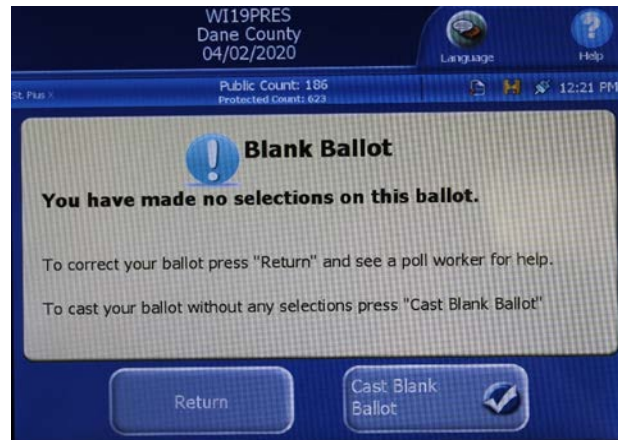
The voter has the option to return the ballot for review or cast the ballot. If there are multiple errors the voter is given an option to review the next error. Instructions above the “Return” button direct the voter to press “Return” if they wish to correct their ballot. The voter is also instructed to ask for a new ballot. Instructions above the “Cast” button direct the voter to press “Cast” if they wish to submit their ballot with votes that will not count. Instructions above the “Next” button direct the voter to press “Next” if they wish to review additional errors on their ballot. Once all the errors have been reviewed, the voter will have the option to cast the ballot.

- Crossover Vote Notification:** If a ballot is inserted with votes in more than one party’s primary, a message appears that identifies the contests with crossover votes. As in the notification for an overvote, the language displayed in this notification reflects the requirements as laid out by the Commission.

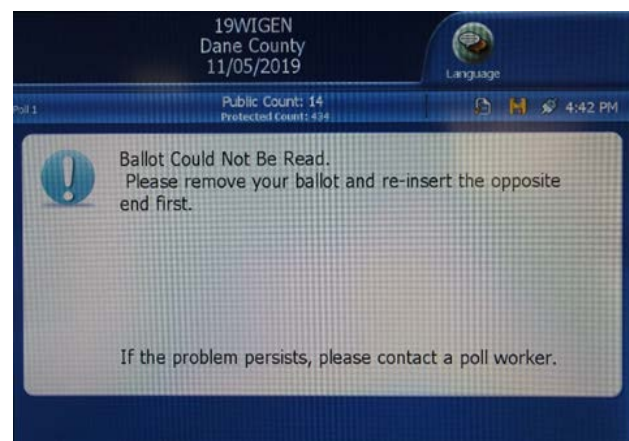


The voter has the ability to return the ballot for review or cast the ballot. If there are multiple errors the voter is given an option to review the next error. Instructions above the “Return” button direct the voter to press “Return” if they wish to correct their ballot to reflect their party preference. The voter is instructed to ask for a new ballot. Instructions above the “Next” button direct the voter to press the “Next” button if they wish to review additional errors on their ballot. Once all errors have been reviewed, the voter will have the option to cast the crossover-voted ballot.

- Blank Ballot Notification:** If the ballot contains no votes, a message appears that states the ballot is blank. The voter is instructed to press “Return” to correct their ballot and see a poll worker for help. The voter is instructed to press “Cast Blank Ballot” to submit their ballot without any selections.



- Ballot Could Not Be Read:** If a ballot is inserted incorrectly, the DS200 will return the ballot to the voter and advise that the voter reinsert the ballot into the tabulator. The DS200 does not allow the voter to cast the ballot without resolving the issue and, if the issue persists, the voter is instructed to contact a poll worker for assistance.



The screen shots above illustrate the manufacturer’s default configuration. This system may also be programmed, at the request of the municipality, to automatically reject all ballots with



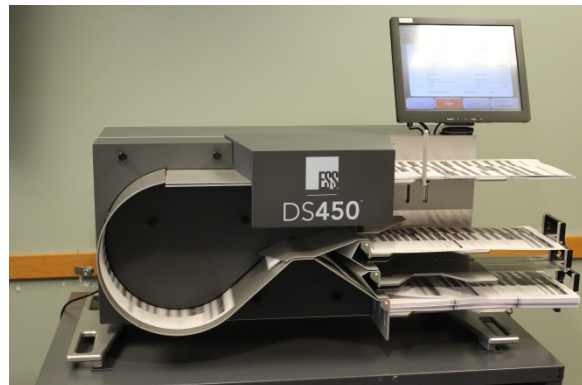
overvotes or crossover votes without the option for override, which requires the voter to correct the error by remaking his or her ballot. This ensures that voters do not mistakenly process a ballot on which a vote for one candidate or all candidates will not count. The automatic rejection configuration of the DS200, however, creates issues for processing absentee ballots because no voter is present to correct the error. These ballots would have to be remade without the improperly voted contests before they could be processed by the DS200.

**Reading Ballots:** The DS200 uses proprietary software called Intelligent Mark Recognition to identify properly marked votes on a ballot. Ballots used in conjunction with this system are designed with an oval next to the candidate name or ballot choice that a voter would fill in to indicate their choice. A digital image of both sides of the ballot is captured by the machine when the ballot is inserted and the DS200 scans the ballot images to determine and record the voter's choices. ES&S recommends that voters use a specific marking device (BIC Grip Roller Ball pen) to mark ballots processed on the DS200. Per the supporting documentation provided by ES&S as part of its application, an improper mark is defined as being "smaller than .005 square inches as a marked response on a pixel count basis." Marks that do not have a greater pixel count than this standard will be read by the equipment as an unmarked oval.

**Printing Reports:** The DS200 includes an internal thermal printer for the printing of the zero reports, log reports, and polling place totals upon the official closing of the polls.

## 2. DS450

The DS450 is a mid-range digital scan ballot tabulator designed for use by election officials at a central count facility. This machine can accommodate a variety of different length ballots and can process between 60 and 90 ballots per minute, depending on the size of the ballot. The DS450 uses technology similar to the DS200 to image both sides of the ballot and identify properly marked votes. Three sorting trays are available that can be configured to set apart specific types of ballots for further review. For example, an election official can use the touchscreen interface to program the machine to sort all ballots containing write-in votes or all overvoted ballots into separate trays for hand tabulation or review. While processing ballots, the DS450 prints a continuous audit log to a dedicated audit log printer. Reports are printed from a second printer. The DS450 saves voter selections and ballot images to an internal hard disk and exports results to a USB flash drive for processing with the Election Reporting Manager (ERM).



### 3. DS850

The DS850 is a high-speed, digital scan ballot tabulator designed for use by election officials at a central count facility. The DS850 can scan and count up to 300 ballots per minute. It uses digital cameras and imaging systems to read the front and back of each ballot, evaluate the result, and sort each ballot into trays based on the result to maintain continuous scanning and tabulating. Multiple criteria can be used to segregate ballots for review, including overvotes, crossover votes and blank ballots.



Depending on the situation, ballots segregated in this fashion may not be counted and may need to be remade by the election inspectors. Election officials use a 14-inch touchscreen display to program these features of the DS850. While processing ballots, the DS850 prints a continuous audit log to a dedicated audit log printer. Reports are printed from a second connected printer. The DS850 saves voter selections and ballot images to an internal hard disk and exports results to a USB flash drive for processing with the Election Reporting Manager (ERM).

### 4. AutoMARK

The AutoMARK is an electronic ballot marking device primarily designed for use by voters who have visual or physical limitations or disabilities.



Voters insert a blank paper ballot in the machine to begin the voting process. They then have the option to use the touchscreen or an integrated tactile keypad to navigate the ballot and make ballot selections. Instructions that guide the voter through the process appear on the screen or can be accessed via the audio ballot function. The voter has the option to adjust the text display contrast and text size to suit their preference. Each button on the tactile keypad has both Braille and printed text labels designed to indicate function and a related shape to help the voter determine its use. In addition, voters may also use headphones to access the audio ballot function that provides a recording of the ballot instructions and lists candidates and options for each contest. The volume and tempo of the audio can be adjusted by the voter and they can use the touchscreen, tactile keypad, or other assistive technology to make their selections.

The AutoMARK provides a ballot summary screen for the voter to review their selections before the ballot is marked by the built-in printer. Overvotes and crossover votes cannot occur on this equipment and a voter is warned about undervotes on the ballot summary screen. Once the voter confirms their selections, those selections are marked on ballot and the machine returns the ballot to the voter.

After the voter completes the process, the AutoMARK clears its internal memory and the paper ballot is the only record of the voting selections made. Ballots marked using the AutoMARK can be processed by the DS200 or deposited into a secured ballot box to be hand tabulated by election inspectors after the polls have closed. Ballots marked using the AutoMARK also may be tabulated using the DS450 and DS850.

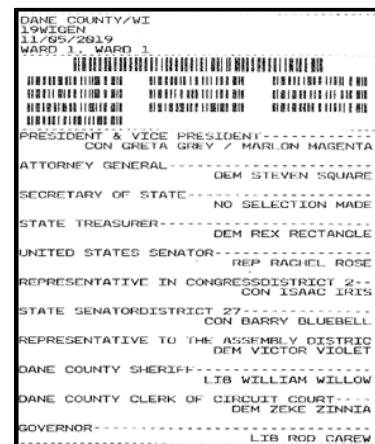
## 5. ExpressVote

The ExpressVote is an electronic vote capture device designed for use by all voters. It features a touchscreen display and integrated thermal printer.

Voters insert a blank ballot card in the machine to begin the voting process. Ballot instructions, contests and candidates are displayed on the screen and they have the option to use the touchscreen or the keypad to navigate the ballot and make selections. The voter may adjust the text contrast and size of the display, if needed. Each button on the tactile keypad has both Braille and printed text labels designed to indicate function and use to the voter. In addition, voters may also use headphones to access the audio ballot function that provides a recording of the ballot instructions and lists candidates and options for each contest. The volume and tempo of the audio can be adjusted by the voter and they can use the touchscreen, tactile keypad, or other assistive technology to make their selections.

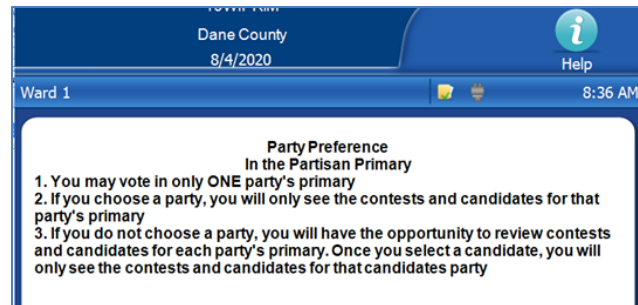


The ExpressVote provides a ballot summary screen for the voter to review their selections before the ballot is marked by the built-in printer. Overvotes and crossover votes cannot occur on this equipment and a voter is warned about undervotes on the ballot summary screen. Once the voter confirms their selections, those selections are printed on ballot and the machine returns the ballot to the voter. The ExpressVote ballot cards do not employ the oval format but utilize an unambiguous ballot format where the names of candidates and referendum choices are printed directly on the ballot card along with the names of the contest. The phrase “No Selection” appears under any contest in which the elector did not vote.



After the voter completes the process, the ExpressVote clears its internal memory and the paper ballot is the only record of the voting selections made. Ballot cards marked using the ExpressVote can be processed by the DS200 or deposited into a secured ballot box to be hand tabulated by election inspectors after the polls have closed. Ballot cards marked using the ExpressVote may also be tabulated using the DS450 and DS850.

For Partisan Primary elections, the ExpressVote displays language similar to the verbiage on the DS200. This language further clarifies the unique instructions for voting in such an election and reflects previous Commission recommendations.



## 6. ExpressLink

ExpressLink is an application software used to pre-print ballot cards for the ExpressVote so that ballot style information is automatically loaded when the ballot card is put into the ExpressVote. Ballot style information, in the form of a barcode for Ward 1 ballots and a different code for Ward 2 ballots, are printed at the top of the blank ExpressVote ballot card using an ExpressLink associated printer. If blank ballot cards are used in these situations, a poll worker or voter will be prompted to select the correct ballot style upon inserting the activation card. WEC staff pre-printed activation cards for this test campaign using this application and the ExpressLink printer. WEC staff incorporated these preprinted activation cards into the in-office equipment testing by including 100 ballot cards in 10 reporting units as part of the ExpressVote ballot test deck. A more detailed explanation of the ExpressLink testing on page 16 of this report.

As in previous testing campaigns, this feature worked as designed. However, neither the ExpressLink application nor ExpressLink printer are federally certified by the EAC. NTS, a Voting System Test Laboratory, determined it to be outside of the scope of certification but NTS did review the source code for 2005 VVSG compliance. NTS tested the equipment and found that it functions as stated in the technical data package for this voting system. No other federal testing was performed on this equipment. ES&S states that these products do not require federal certification. These products are described as ancillary products available to a jurisdiction who may purchase the system. These products are not required for the ExpressVote to function and, in their absence, election inspectors will need to activate each ballot on the ExpressVote if more than one ballot style is available on the machine.

### ii. Software

EVS 5.2.4.0 offers an update to the ElectionWare software suite previously approved for use in Wisconsin under EVS 5.2.0.0. ElectionWare integrates election administration functions into a

unified application and is used to create the programming definitions for an election and to create the files used by the DS200, DS850, ExpressVote, AutoMARK, and ERM.

The software components used during this test campaign were as follows:

<i>Software</i>	<i>Version</i>
ElectionWare	4.7.1.4
Election Reporting Manager (ERM)	8.12.1.1
ES&S Event Logging Service (ELS)	1.5.5.0
ExpressVote Previewer	1.4.1.7
ExpressLink*	1.3.0.0
Removable Media Service (RMS)	1.4.5.0
VAT Previewer	1.8.6.1

WEC staff visually verified the software version numbers for each component of the EVS 5.2.4.0 by checking the component's configuration display.

In addition to the verification of software version numbers, WEC staff also had the opportunity to interact with several functionalities of the software components of EVS 5.2.4.0. The functionality of the three tabulators that capture digital ballot images increases the ability of groups requesting to conduct post-election audits of the vote. The images could be provided or made publicly available via a county or municipal website, in lieu of copies of paper ballots.

These ballot images can be exported to the Election Management System and a report listing the disposition of each vote on a ballot can be viewed. This feature can be used to verify how a tabulator treated a vote or ballot if questions arise as to how the machine counted votes for a contest or on a specific ballot, or ballots. The ballot image files serve as a reliable backup in the event that original ballot images are lost or damaged.

B. EVS 5.3.4.0 (base voting system with modeming functionality)

EVS 5.3.4.0 is a modification to EVS 5.2.4.0 that provides support for modeming of unofficial election results from a DS200 to a Secure File Transfer Protocol (SFTP) server through public analog or wireless telecommunications networks. All modifications of the system were tested to the 2005 VVSG by NTS.

At its May 21, 2013, meeting, pursuant to authority granted in Wis. Stat. § 5.91 and Wis. Admin. Code EL 7, the Government Accountability Board adopted testing procedures and standards pertaining to the modeming and communication functionality of voting systems that have not received EAC certification. The standards were based upon the analysis and findings outlined in a staff memorandum and detailed in the *Voting Systems Standards, Testing Protocols and*

*Procedures Pertaining to the Use of Communication Devices in Wisconsin*, which are attached as Appendix D. These rules apply to non-EAC certified voting systems, where the underlying voting system received EAC certification to either the 2002 Voting System Standards (VSS) or 2005 VVSG, but any additional modeming component does not meet the 2005 VVSG.

WEC staff conducted testing of EVS 5.3.4.0 in three counties: Brown, Rock, and Marathon between April 15 and April 18, 2019. In consultation with each county clerk, WEC staff selected three municipalities in each county to serve as locations for testing.<sup>1</sup> The municipalities were selected in part because of the strength of the wireless networks in the community, or lack thereof, and the municipal clerk's willingness to host the test team.

The modem in the DS200 communicates with the jurisdiction's wireless carrier or a dial-up connection through a landline modem to transmit unofficial election night results to a secure server at a central office location, such as the county clerk's office. Wireless transmissions rely on public networks from one of these three cellular service providers: AT&T, Sprint, or Verizon. The server hosts a secure file transfer commercial off the shelf software package. A firewall provides a buffer between the network segment, where the server is located, and other internal virtual networks or external networks. The data that is transmitted is encrypted and it is digitally signed. The modem function may only be used after an election inspector has closed the polls and entered a password to access the control panel. The network is configured to only allow valid connections to connect to the SFTP server. The firewall further restricts the flow and connectivity of traffic.

The EMS is required to be deployed on a "hardened system," meaning that all software that is not essential to the proper functioning of the EMS should be removed from the computer where the EMS is installed. This procedure is designed to increase the security of the system through the elimination of applications that may provide "back door" access to the system. Access to the internet should also be restricted and the EMS provides an audit log of all system actions and connection attempts that can be used to verify unauthorized access to the system while unofficial election results are being transmitted after the close of polls.

The decision on whether the DS200 will include an analog or wireless modem is made at the time of purchase. The EMS supports modeming from a combination of methods in a jurisdiction. For example, a jurisdiction could have two sites with analog modems and three sites with wireless modems. This voting system successfully handled simultaneous transmissions from both types of modems. Conversely, a jurisdiction could choose to purchase all analog modems or all wireless modems and these configurations were also successfully tested during this campaign. Some of the factors that may impact this decision include the strength of wireless service in the jurisdiction and whether the jurisdiction has an existing contract with one of the three service providers. The EMS supports modeming through a combination of service providers. During this test campaign, WEC staff successfully transmitted results in each county

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<sup>1</sup> Brown County: Village of Ashwaubenon, Village of Suamico, Town of Lawrence  
Rock County: City of Janesville, Town of Harmony, Town of Fulton  
Marathon County: Village of Marathon City, Village of Maine, Village of Rothschild

using AT&T in one municipality, Sprint in another municipality, and Verizon in a third municipality. During this test campaign, the strength of service ranged from two bars (lowest indicator level is zero) to five bars (highest indicator level). Election results packets were sent successfully at all service levels.

EVS 5.3.4.0 also features a Regional Results program. This stand-alone application allows for the transmission of unofficial election results from a regional location to a central office utilizing a wireless network provided by AT&T, Sprint, or Verizon. WEC staff observed this process in Marathon County. The Regional Results application allows election media containing results from different polling places to be read and then securely transferred to a server at a central office location such as the county clerk’s office.

Neither the modem function of the DS200 nor the Regional Results program impacts the tabulation of official election results.

i. Hardware

ES&S submitted the following equipment for testing as part of EVS 5.3.4.0:

<i>Equipment</i>	<i>Hardware Version(s)</i>	<i>Firmware Version</i>	<i>Type</i>
DS200	1.2.1 1.2.3 1.3	2.12.2.0	Polling Place Digital Scanner and Tabulator
DS450	1.0	3.0.0.0	Mid-range Central Count Digital Scanner and Tabulator
DS850	1.0	2.10.2.0	Central Count Digital Scanner and Tabulator
AutoMark Voter Assist Terminal (VAT)	1.0 1.1 1.3	1.8.6.1	Ballot Marking Device
ExpressVote	1.0	1.4.1.7	Universal Vote Capture Device

iii. Software

The software components used during this test campaign were as follows:

<i>Software</i>	<i>Version</i>
ElectionWare	4.7.1.4
Election Reporting Manager (ERM)	8.12.1.2

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ES&S Event Logging Service (ELS)	1.5.5.0
ExpressVote Previewer	1.4.1.7
ExpressLink	1.3.0.0
Removable Media Service (RMS)	1.4.5.0
VAT Previewer	1.8.6.1
Regional Results	1.1.0.0

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#### **IV. Functional Testing**

##### **A. EVS 5.2.4.0 (base voting system)**

As required by Wis. Admin. Code EL § 7.02(1), WEC staff conducted three mock elections with each component of EVS 5.2.4.0 to ensure the voting system conforms to all Wisconsin requirements: a partisan primary, a general election with both a presidential and special gubernatorial contest, and a presidential preference vote combined with a nonpartisan election.

WEC staff designed a test deck of nearly 1,400 ballots using various configurations of votes over the three mock elections to verify the accuracy and functional capabilities of the EVS 5.2.4.0. Using blank test ballots supplied by ES&S, WEC staff appropriately marked votes for contests and candidates as designated on the test deck spreadsheet. For each mock election, 300 paper ballots were marked to be fed through the DS200, DS450 and DS850. An additional 80 paper ballots were marked to test the write-in report function of the DS200. The functionality of the ExpressVote was tested by marking 250 ballots with the equipment across the three mock elections. This total includes 50 ballots for each mock election, plus 100 ExpressVote ballots that were marked as part of ExpressLink testing. A total of 150 ballots were marked on the AutoMARK, 50 ballots for each mock election.

The ballots marked, as well as the votes captured by the ExpressVote, and ballots marked with the AutoMARK were verified by WEC staff before being scanned and counted by the DS200, DS450, and DS850. WEC staff ensured that the results produced by the three pieces of equipment were accurate and reconciled with the test deck script prior to transitioning to test the next mock election type. A small number of results anomalies were investigated and resolved in real time, with a slight delay to testing.

Votes were recorded on test ballots in a variety of configurations in all contests to ensure that the programming of the tabulation equipment was compatible with Wisconsin election law, and that the equipment processed ballot markings in accordance with statutory requirements. Ballots were purposefully marked with overvoted contests and the equipment was able to consistently identify those scenarios and inform the voter about the specific contest, or contests, that were problematic. Ballots for both the Partisan Primary and Presidential Preference mock elections were also marked with votes that crossed party lines and, in each instance, the machines were able to identify those crossover votes and display the warning screen to the voter. Two different



ballot styles were used for each mock election and one ballot style in each election had a special election contest included on the ballot. This inclusion was used to determine if the equipment could be programmed to accommodate multiple election definitions on the same ballot style and produce accurate results. In all instances, the equipment was found to have accurately tabulated votes and correctly reflected Wisconsin election law in the programming.

The test decks used for this campaign were also designed to determine what constitutes a readable mark by each piece of tabulation equipment included in this system. A subset of ballots in the test deck were marked using “special marks.” The ballots with special marks were processed by the tabulation equipment. WEC staff reviewed the results to determine which of the special marks were read by the machines. The chart below illustrates actual marks from test deck ballots that were successfully read and counted as “good marks” by the DS200, DS450 and DS850.

Examples of Marks Read by the EVS 5.2.4.0 Components during Testing			
<input checked="" type="radio"/> Turanga Leela	<input checked="" type="radio"/> William Adama	<input type="radio"/> James T. Kirk	<input type="radio"/> Roger Waters
<input type="radio"/> Philip J. Fry	<input type="radio"/> Tom Zerek	<input checked="" type="radio"/> Harry Mudd	<input checked="" type="radio"/> David Gilmour
<input type="radio"/> Uninstructed	<input type="radio"/> Uninstructed	<input type="radio"/> Uninstructed	<input type="radio"/>

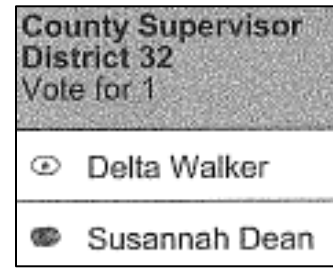
All three pieces of equipment were able to correctly read marks in pencil, black pen, blue pen, red pen, and green pen as well as using markers provided by ES&S. The test decks also included ballots folded to simulate absentee ballots and ballots with slight tears in them. Folded ballots were able to be processed on the DS200, DS450 and DS850. It is possible for ballots with folds directly through the oval to create what is best described as a false positive. While all three pieces of equipment processed slightly torn ballots without incident, anything other than a slight tear was only able to be processed by the DS200. Ballots with large tears resulted in jams in both the DS450 and the DS850. Staff would advise that ballots with folds or tears be remade before being tabulated on Election Day.

Blank ballots were also included to determine how each of the three different tabulators would treat these ballots. The DS200 was able to identify blank ballots and provide a warning message to the voter that indicated the ballot was blank and provide options to return the ballot or cast it as is. This functionality was also tested on the DS450 or DS850, with the blank ballots diverted to a separate tray for election inspector review.

Ballots with write-in votes tabulated by the DS200 are marked by the tabulator with a small pink circle on one end of the ballot. Depending on the ballot box used, these ballots may or may not be diverted into a separate write-in bin. This voting system can also be 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 ElectionWare EMS. For a more detailed review of the testing staff conducted to review the DS200’s write-in report functionality, please see Appendix F.

The majority of ballots in the test deck were processed without incident during the test campaign, but there were anomalies and inconsistencies identified. One inconsistency was that ballots marked in pencil with erasure marks were not read the same by each of the three machines. In multiple instances, a ballot with an erasure mark that was not counted by one piece of equipment was treated as a “good mark” by a different piece of equipment in the system. Other test ballots that contained lighter erasure marks were treated uniformly by all three tabulators.

In addition, ballots that were purposefully marked with slight resting marks were also not treated consistently across all three machines. As shown in the example to the right, on ballots where there were heavy, or especially dark resting marks, the DS850, in several instances, did not read the resting mark in the oval as a vote and counted the ballot. However, the DS450 and DS200 both read the mark as unclear, or an overvote, and would not accept the ballot as marked. Additional test ballots that were marked with lighter resting marks within an oval, or with resting marks touching the edge or outside of the oval were all treated the same by the three machines and these marks did not negatively impact the counting of votes on those ballots.



Anomalies such as these are common during a testing campaign and are identified by the purposeful inclusion of ambiguous marks on test deck ballots. In both instances, voter behavior in marking the ballot (dark erasure smudge and resting mark within an oval) played a significant role in the disposition of those ballots by the voting equipment. Testing results and staff observation of the system indicate that EVS 5.2.4.0 consistently identifies and tabulates correctly marked votes in a uniform fashion. The system is also flexible enough to correctly interpret special marks made within an oval while not considering resting or stray marks made outside of an oval.

Staff also conducted testing on the ExpressLink application and ballot style printer. The ExpressLink printer places a barcode on an ExpressVote ballot that, when inserted, automatically loads a voter’s correct ballot style. To ensure that the ExpressLink printer functions appropriately, staff placed ballot style activation codes on 100 ExpressVote ballot cards, representing 10 ballot styles. These 100 ballot cards were then placed in the ExpressVote and marked according to a pre-set test script. Each of the 100 ExpressVote ballot cards that had been pre-printed with the ExpressLink ballot style activation codes loaded the corresponding ballot style correctly. Further detail on the testing protocol employed to test the ExpressLink functionality can be found in Appendix E.

B. EVS 5.3.4.0 (base voting system with modeming functionality)

WEC staff conducted functional testing of EVS 5.3.4.0 in Brown, Rock, and Marathon counties based on the *Voting Systems Standards, Testing Protocols and Procedures Pertaining to the Use of Communication Devices in Wisconsin*. A four-person team of WEC staff conducted this testing campaign. Two representatives from ES&S were on hand in each county to provide technical support. ES&S provided three (3) DS200s in each county, equipped with the

appropriate style of modem to be tested. Also provided by ES&S as part of testing was a portable EMS environment, which included an SFTP client, firewall, and ERM software. In each location, ES&S set up the portable environment in the county office to receive test election results from each municipal testing location. In each municipal location, WEC staff inserted a pre-marked package of 10 test ballots through the DS200 to create an election results packet to transmit to the county office. A WEC staff member was present at the county office to observe how the portable EMS environment handled the transmissions.

In previous test campaigns, staff tested both wireless and analog (wired) modems in each of the three counties. Testing for EVS 5.3.4.0, however, necessitated a deviation from that established practice. Through contacting various county clerks who had expressed interest in participating in the equipment testing process, staff learned that the traditional analog telephone line in many county office buildings have either been digitized or transferred to Voice Over IP (VOIP) connections. Analog phone lines are a crucial part of testing transmission in modems with a wired connection as results cannot be correctly received by the county when the inbound connection is different than that from which it was sent. Lacking an analog connection in both Rock and Marathon counties, analog modem testing was conducted only in Brown County. To ensure that multiple machines with an analog connection were tested, and to mimic Brown County's actual election night transmission procedure, staff tested DS200s with a wired connection in each of the three municipalities.

Moving forward with future test campaigns, a lack of analog phone lines in county buildings will become more common. To overcome this, staff will work with ES&S representatives during the planning phase of the test campaign to determine the modem connection type of each county where testing could take place. Based on their customer list, ES&S can pull data based on current equipment and modem type and then provide WEC staff with that information. Staff will then contact county clerks and inquire of their willingness and ability to accommodate a voting equipment test campaign.

i. Brown County

On April 16, 2019, WEC staff conducted tests on the EVS 5.3.4.0 modem component in three municipalities: Village of Suamico, Village of Ashwaubenon, and Town of Lawrence. ES&S conducted pre-testing of the EVS 5.3.4.0 analog modem component in Brown County prior to testing. A DS200 equipped with an analog modem was tested in all three municipalities. A test script was used to ensure that each machine conforms to the communications device standards and was able to transmit accurate election results data from the DS200 to the Election Reporting Manager.

<b>Municipality</b>	<b>Type of Modem</b>	<b>Signal Strength</b>
Village of Suamico	Analog	n/a
Village of Ashwaubenon	Analog	n/a
Town of Lawrence	Analog	n/a

WEC staff successfully transmitted election results from each of the three municipalities using analog modems. The test script calls for the verification of several certification standards and then requires 10 results sets to be transmitted from each DS200. The machines were able to successfully transmit multiple results with a 90% success rate during this portion of testing. The functional testing concluded with a stress test where WEC staff attempted to transmit results simultaneously from all the machines for a set period of time and each machine was able to transmit multiple results sets during that 15-minute timeframe. Staff experienced two different situations when transmission attempts failed. First, the DS200 displayed a “server error” message on several occasions that indicates a failure to establish the necessary connection between the modem and the ERM server. The second scenario occurred when staff received a message that the line was ‘busy’ and could not accept transmissions at that time. This scenario occurred during the stress test when multiple machines were attempting to transmit results during a controlled time period.

<b>Location</b>	<b>Modem Type</b>	<b>Initial Transmission</b>	<b>Load Test Results</b>
Village of Suamico	Analog	9 of 10	7 of 8
Town of Lawrence	Analog	10 of 10	2 of 5
Village of Ashwaubenon	Analog	9 of 10	3 of 6
<b>Totals</b>		<b>24 of 30</b>	<b>12 of 19</b>

ii. Rock County

On April 17, 2019, WEC staff conducted tests on the EVS 5.3.4.0 modem component in three municipalities: Town of Fulton, City of Janesville, and Town of Harmony. ES&S conducted pre-testing of the EVS 5.3.4.0 modem component in Rock County prior to testing. A DS200 equipped with a wireless modem was tested in all three municipalities. The same test script that was used in Brown County was again used during this portion of the test campaign.

<b>Municipality</b>	<b>Type of Modem</b>	<b>Signal Strength</b>
Town of Fulton	Wireless – AT&T	2-3 bars
Town of Harmony	Wireless – Sprint	3 bars
City of Janesville	Wireless – Sprint	4 bars

WEC staff successfully transmitted election results from each of the three municipalities using wireless modems. The test script calls for the verification of several certification standards and then requires 10 results sets to be transmitted from the DS200. The three machines each were able to successfully transmit all 10 results sets during this portion of testing. The functional testing concluded with a stress test where WEC staff attempted to transmit results simultaneously from all the machines for a set period of time and each machine was able to transmit at least 12 results set during the stress test with zero overall transmission failures.

<b>Location</b>	<b>Modem Type</b>	<b>Initial Transmission</b>	<b>Load Test Results</b>
Town of Fulton	Wireless – AT&T	10 of 10	12 of 12
Town of Harmony	Wireless - Sprint	10 of 10	14 of 14
City of Janesville	Wireless – Sprint	10 of 10	14 of 14
<b>Totals</b>		<b>30 of 30</b>	<b>40 of 40</b>

iii. Marathon County

On April 18, 2019, WEC staff conducted tests on the EVS 5.3.4.0 modem component in three municipalities: Village of Marathon City, Village of Maine, and Village of Rothschild. ES&S conducted pre-testing of the EVS 5.3.4.0 modem component in Marathon County prior to WEC testing. A DS200 equipped with a wireless modem was tested in all three municipalities. The same test script that was used in Brown and Rock Counties was again used during this portion of the test campaign.

<b>Municipality</b>	<b>Type of Modem</b>	<b>Signal Strength</b>
Village of Marathon City	Wireless – AT&T	3 bars
Village of Maine	Wireless – Sprint	3 bars
Village of Rothschild	Wireless – AT&T	4 bars

WEC staff successfully transmitted election results from each of the three municipalities using wireless modems. The test script calls for the verification of several certification standards and then requires 10 results sets to be transmitted from the DS200. The three machines each were able to successfully transmit all 10 results sets during this portion of testing. The functional testing concluded with a stress test where WEC staff attempted to transmit results simultaneously from all of the machines for a set period of time and each machine was able to transmit at least 12 results set during the stress test with zero overall transmission failures.

<b>Location</b>	<b>Modem Type</b>	<b>Initial Transmission</b>	<b>Load Test Results</b>
Village of Marathon City	Wireless – AT&T	10 of 10	12 of 12
Village of Maine	Wireless - Sprint	10 of 10	10 of 10
Village of Rothschild	Wireless – AT&T	10 of 10	15 of 15
<b>Totals</b>		<b>30 of 30</b>	<b>37 of 37</b>

Other testing notes:

- WEC staff experienced no issues with the wireless modem component. However, questions remain over the efficacy of the wired modem component because of the decreasing availability of analog phone lines. WEC staff would recommend any purchasing entity considering the wired modem option consult their municipal and county IT departments to ensure that a traditional analog signal can be received by the ERM in the current county building setup. These conversations should also give the

clerk information on possible future digitization or VOIP transition away from standard phone lines.

- The success rate of modem transmission attempts is largely dependent on the presence of reliable infrastructure. Staff is confident that the modeming functionality of EVS 5.3.4.0 performs as described by the vendor in the application materials. It is recommended that purchasing jurisdictions assess their current infrastructure to determine compatibility with EVS 5.3.4.0 and identify any necessary upgrades that may impact their purchasing and implementation budget.

## **V. Public Demonstration**

A public demonstration of the EVS 5.2.4.0 was held April 10, 2019, from 4:00 p.m. to 5:30 p.m. in Madison at the WEC office. The public meeting is designed to allow members of the public the opportunity to use the voting system and provide comment. There was one attendee at the public demonstration.

## **VI. Wisconsin Elections Commission Voting Equipment Review Panel Meeting**

In an effort to continue to receive valuable feedback from local election officials and community advocates during the voting equipment approval process, the Wisconsin Elections Commission formed a Voting Equipment Review Panel. Wis. Admin. Code EL §7.02(2), permits the agency to use a panel of local election officials and electors to assist in the review of voting systems.

Five of the 25 invited participants attended the Voting Equipment Review Panel Meeting, which is composed of municipal and county clerks, representatives of the disability community, and advocates for the interests of the voting public. Several members who had submitted an rsvp could not attend due to a spring snowstorm. The meeting took place at the WEC office in Madison on April 10, 2019, from 2:00 p.m. to 3:30 p.m. ES&S provided a demonstration of the EVS 5.2.4.0 with attendees encouraged to test the equipment. The modeming component of the EVS 5.3.4.0 was discussed but not demonstrated during the meeting. Comments and feedback from the Voting Equipment Review Panel meeting are included in Appendix G.

## **VII. 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 analysis of the EVS 5.2.4.0 and EVS 5.3.4.0's compliance with the standards.

<b>§ 5.91 (1)</b>
The voting system enables an elector to vote in secret.
<b>Staff Analysis</b>
The ES&S voting systems meet 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.

<b>§ 5.91 (3)</b>
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
<b>Staff Analysis</b>
The ES&S voting systems allow voter to split their ballot among as many parties as they wish during any election that is not a partisan primary.

<b>§ 5.91 (4)</b>
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.
<b>Staff Analysis</b>
The ES&S voting systems allow write-ins where permitted.

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

<b>§ 5.91 (6)</b>
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.
<b>Staff Analysis</b>
The ES&S voting systems can be configured to always reject crossover votes without providing an opportunity for the voter to override. The system can also be programmed to provide a warning screen to the voter that identifies

any crossover voted contest. Either one of these programming options allows these systems to meet this requirement. The warning screen provides options where the voter can choose to have their ballot returned to them or they can cast the ballot without correcting the crossover vote. The use of the override function was previously prohibited by statute, but Wis. Stats. §5.85(2)(b) expressly allows for the optional use of the override function in event of an overvote and the WEC has applied the same standard to the use of the override function in the event of crossover vote.

<b>§ 5.91 (7)</b>
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.
<b>Staff Analysis</b>
The ES&S voting systems can be configured to always reject overvotes without providing an opportunity for the voter to override. The system can also be programmed to provide a warning screen to the voter that identifies any overvoted contest. Either one of these programming options allows these systems to meet this requirement. The warning screen provides options where the voter can choose to have their ballot returned to them or they can cast the ballot without correcting the overvote. The use of the override function was previously prohibited by statute, but Wis. Stats. §5.85(2)(b) expressly allows for the optional use of the override function in event of an overvote.

<b>§ 5.91 (8)</b>
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.
<b>Staff Analysis</b>
The ES&S voting systems meet this requirement.

<b>§ 5.91 (9)</b>
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.
<b>Staff Analysis</b>



The ES&S voting systems meet this requirement.

<b>§ 5.91 (10)</b>
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.
<b>Staff Analysis</b>
The ES&S voting systems meet this requirement.

<b>§ 5.91 (11)</b>
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.
<b>Staff Analysis</b>
The ES&S voting systems meet this requirement.

<b>§ 5.91 (12)</b>
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.
<b>Staff Analysis</b>
The ES&S voting systems can be programmed to provide warning screens to the voter that identifies any problem with their ballot. The warning screens provide an explanation of the problem and allow the voter to have their ballot returned to them to review and correct the error. The systems can be configured to always reject overvotes and crossover votes without providing an opportunity for the voter to override.

<b>§ 5.91 (13)</b>
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.
<b>Staff Analysis</b>
The ES&S voting systems meet this requirement.

<b>§ 5.91 (14)</b>
The voting system does not use any mechanism by which a ballot is punched or punctured to record the votes cast by an elector.

<b>Staff Analysis</b>
The ES&S voting systems do not use any such mechanism to record votes.

<b>§ 5.91 (15)</b>
The voting system permits an elector to privately verify the votes selected by the elector before casting his or her ballot.
<b>Staff Analysis</b>
The ES&S voting systems meet this requirement through the use of hand-marked paper ballots and accessible voting equipment that provides both an electronic ballot review screen and a marked paper ballot that can be reviewed before tabulation.

<b>§ 5.91 (16)</b>
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.
<b>Staff Analysis</b>
The ES&S voting systems meet this requirement.

<b>§ 5.91 (17)</b>
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.
<b>Staff Analysis</b>
The ES&S voting systems can be programmed to provide warning screens to the voter that identifies any problem with their ballot. The warning screens provide an explanation of the problem and allow the voter to have their ballot returned to them to review and correct the error. The systems can be configured to always reject overvotes and crossover votes without providing an opportunity for the voter to override.

<b>§ 5.91 (18)</b>
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.
<b>Staff Analysis</b>

Since the ES&S voting systems presented for approval require 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:

<b>HAVA § 301(a)(1)(A)</b>
<p>The voting system shall:</p> <ul style="list-style-type: none"> <li>(i) permit the voter to verify (in a private and independent manner) the votes selected by the voter on the ballot before the ballot is cast and counted;</li> <li>(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</li> <li>(iii) if the voter selects votes for more than one candidate for a single office –           <ul style="list-style-type: none"> <li>(I) notify the voter that the voter has selected more than one candidate for a single office on the ballot;</li> <li>(II) notify the voter before the ballot is cast and counted of the effect of casting multiple votes for the office; and,</li> <li>(III) provide the voter with the opportunity to correct the ballot before the ballot is cast and counted</li> </ul> </li> </ul>
<b>HAVA § 301(a)(1)(C)</b>
<p>The voting system shall ensure that any notification required under this paragraph preserves the privacy of the voter and the confidentiality of the ballot.</p>
<b>HAVA § 301(a)(3)(A)</b>
<p>The voting system shall—</p> <ul style="list-style-type: none"> <li>(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</li> </ul>
<b>Staff Analysis</b>
<p>The ES&amp;S voting systems meet these requirements through the inclusion of multiple options for ADA-compliant voting machines municipalities can choose to employ. Each of these accessible voting options was tested for functionality and usability during this test campaign.</p>

## **VIII. Recommendations**

Staff has reviewed the application materials, including the technical data package and testing lab report, and examined the results from the functional and modeming test campaigns to determine if these systems are compliant with both state and federal certification laws. EVS 5.2.4.0 complies with all applicable state and federal requirements. As EVS 5.2.4.0 is the base voting system for EVS 5.3.4.0, EVS 5.3.4.0 also meets this standard. The voting systems met all standards over three mock elections and staff determined they can successfully run a transparent, fair, and secure election in compliance with Wisconsin Statutes. The systems also enhance access to the electoral process for individuals with disabilities with the inclusion of the ExpressVote vote capture system and the AutoMARK ballot-marking device.

1. WEC staff recommends approval of ES&S voting system EVS 5.2.4.0 and components set forth in the tables on pages 3 and 10 above. This voting system accurately completed the three mock elections and was able to accommodate the voting requirements of the Wisconsin election process. Additionally, WEC staff recommends approval of ES&S voting system EVS 5.3.4.0 and components set forth in the tables on pages 12 and 13 above. This recommendation is based on the VSTL report provided by Pro V&V and on this voting system successfully completing a functional test according to the *Voting Systems Standards, Testing Protocols and Procedures Pertaining to the Use of Communication Devices in Wisconsin*.
2. WEC staff recommends approval of the ExpressLink application software and ballot style printer as part of the WEC's approval. While this product lacks EAC certification, the component performed successfully when evaluated under a Commission approved test protocol.
3. WEC staff recommends that as a continuing condition of the WEC's approval, ES&S may not impose customer deadlines contrary to requirements provided in Wisconsin Statutes, as determined by the WEC. 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.
4. WEC staff recommends that as a continuing condition of the WEC's approval, that this system must always be configured to include the following options:
  - a. Automatic rejection of crossover and overvoted ballots with or without the option to override.
  - b. Automatic rejection of all improper ballots except blank ballots.
  - c. Digital ballot images to be captured for all ballots tabulated by the system.
5. As part of US EAC certificate: ESSEVS5240, only equipment included in this certificate can be used together to conduct an election in Wisconsin. Previous versions that were approved for use by the former Elections Board and the G.A.B. are not compatible with the new ES&S

voting system and are not to be used together with the equipment seeking approval by the WEC, as this would void the US EAC certificate. If a jurisdiction upgrades to EVS 5.2.4.0, it needs to upgrade each and every component of the voting system to the requirements of what is approved herein. Likewise, if a jurisdiction upgrades to EVS 5.3.4.0, it needs to upgrade each and every component of the voting system to the requirements of what is approved herein.

6. WEC 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.
7. The Wisconsin application for approval contains a condition that requires the vendor to reimburse the WEC for all costs associated with the testing campaign and certification process. ES&S agreed to this requirement on the applications submitted to WEC on September 11, 2018 requesting the approval of EVS 5.2.4.0 and 5.3.4.0.

### **IX. Proposed Motion**

**MOTION:** The Wisconsin Elections Commission adopts the staff's recommendations for approval of the ES&S voting system's Application for Approval of EVS 5.2.4.0 in compliance with US EAC certificate ESSEVS5240 including the conditions described above and the ES&S voting system's Application for Approval of EVS 5.3.4.0 including the conditions described above, to also include ExpressLink approval.

## **Appendices**

- Appendix A: Wisconsin Statutes § 5.91
- Appendix B: Wisconsin Administrative Code Ch. EL 7
- Appendix C: US-EAC Certificate of Conformance / Scope of Certification
- Appendix D: *Voting Systems Standards, Testing Protocols and Procedures Pertaining to the Use of Communication Devices in Wisconsin*
- Appendix E: ExpressLink Testing Protocol
- Appendix F: DS200 Write-In Report Pilot Test Protocol
- Appendix G: Wisconsin Voting Equipment Review Panel Feedback

**Appendix A: Wis. Stat. § 5.91**

**5.91 Requisites for approval of ballots, devices and equipment.** No ballot, voting device, automatic tabulating equipment, or related equipment and materials to be used in an electronic voting system may be utilized in this state unless it is certified by the commission. The commission may revoke its certification of any ballot, device, equipment, or materials at any time for cause. The commission may certify any such voting device, automatic tabulating equipment, or related equipment or materials regardless of whether any such item is approved by the federal election assistance commission, but the commission may not certify any ballot, device, equipment, or material to be used in an electronic voting system unless it fulfills the following requirements:

- (1) It enables an elector to vote in secrecy and to select the party for which an elector will vote in secrecy at a partisan primary election.
- (3) Except in primary elections, it enables an elector to vote for a ticket selected in part from the nominees of one party, and in part from the nominees of other parties, and in part from independent candidates and in part of candidates whose names are written in by the elector.
- (4) It 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.
- (5) It accommodates all referenda to be submitted to the electors in the form provided by law.
- (6) The voting device or machine permits an elector in a primary election to vote for the candidates of the recognized political party of his or her choice, and the automatic tabulating equipment or machine 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.
- (7) It permits an 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.
- (8) It permits an elector, at a presidential or gubernatorial election, by one action to vote for the candidates of a party for president and vice president or for governor and lieutenant governor, respectively.
- (9) It prevents an elector from voting for the same person more than once for the same office, except where an elector casts excess write-in votes upon a ballot that is distributed to the elector.
- (10) It 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.
- (11) It records correctly and counts accurately every vote properly cast 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.

- (12) It 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 device, automatic tabulating equipment or related equipment or materials.
- (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.
- (14) It does not employ any mechanism by which a ballot is punched or punctured to record the votes cast by an elector.
- (15) It permits an elector to privately verify the votes selected by the elector before casting his or her ballot.
- (16) It provides an elector with 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.
- (17) Unless the ballot is counted at a central counting location, it includes a mechanism for notifying an elector who attempts to cast an excess number of votes for a single office that his or her votes for that office will not be counted, and provides the elector with an opportunity to correct his or her ballot or to receive and cast a replacement ballot.
- (18) If the device consists of an electronic voting machine, it generates a complete, permanent paper record showing all votes cast by each 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.

**History:** 1979 c. 311; 1983 a. 484; 1985 a. 304; 2001 a. 16; 2003 a. 265; 2005 a. 92; 2011 a. 23, 32; 2015 a. 118 s. 266 (10); 2015 a. 261; 2017 a. 365 s. 111.

**Cross-reference:** See also ch. [EL 7](#), Wis. adm. code.



## **Appendix B: Wis. Admin. Code Ch. EL 7**

### **Chapter EL 7**

#### **APPROVAL OF ELECTRONIC VOTING EQUIPMENT**

**EL 7.01** Application for approval of electronic voting system.

**EL 7.02** Agency testing of electronic voting system.

**EL 7.03** Continuing approval of electronic voting system.

**Note:** Chapter ElBd 7 was renumbered chapter GAB 7 under s. 13.92 (4) (b) 1., Stats., and corrections made under s. 13.92 (4) (b) 7., Stats., [Register April 2008 No. 628](#). Chapter GAB 7 was renumbered Chapter EL 7 under s. 13.92 (4) (b) 1., Stats., [Register June 2016 No. 726](#).

#### **EL 7.01 Application for approval of electronic voting system.**

- (1) An application for approval of an electronic voting system shall be accompanied by all of the following:
- (a) A signed agreement that the vendor shall pay all costs, related to approval of the system, incurred by the elections commission, its designees and the vendor.
  - (b) Complete specifications for all hardware, firmware and software.
  - (c) All technical manuals and documentation related to the system.
  - (d) Complete instruction materials necessary for the operation of the equipment and a description of training available to users and purchasers.
  - (e) Reports from an independent testing authority accredited by the national association of state election directors (NASSED) demonstrating that the voting system conforms to all the standards recommended by the federal elections commission.
  - (f) A signed agreement requiring that the vendor shall immediately notify the elections commission of any modification to the voting system and requiring that the vendor will not offer, for use, sale or lease, any modified voting system, if the elections commission notifies the vendor that the modifications require that the system be approved again.
  - (g) A list showing all the states and municipalities in which the system has been approved for use and the length of time that the equipment has been in use in those jurisdictions.
- (2) The commission shall determine if the application is complete and, if it is, shall so notify the vendor in writing. If it is not complete, the elections commission shall so notify the vendor and shall detail any insufficiencies.
- (3) If the application is complete, the vendor shall prepare the

voting system for three mock elections, using offices, referenda questions and candidates provided by the elections commission.

**History:** Cr. [Register, June, 2000, No. 534](#), eff. 7-1-00; **correction in (1) (a), (f), (2), (3) made under s. 13.92 (4) (b) 6., Stats., Register June 2016 No. 726.**

**EL 7.02 Agency testing of electronic voting system.**

(1) The elections commission shall conduct a test of a voting system, submitted for approval under s. [EL 7.01](#), to ensure that it meets the criteria set out in s. [5.91](#), Stats. The test shall be conducted using a mock election for the partisan primary, a mock general election with both a presidential and gubernatorial vote, and a mock nonpartisan election combined with a presidential preference vote.

(2) The elections commission may use a panel of local election officials and electors to assist in its review of the voting system.

(3) The elections commission may require that the voting system be used in an actual election as a condition of approval.

**History:** Cr. [Register, June, 2000, No. 534](#), eff. 7-1-00; **correction in (1) to (3) made under s. 13.92 (4) (b) 6., Stats., and correction in (1) made under s. 13.92 (4) (b) 7., Stats., Register June 2016 No. 726.**

**EL 7.03 Continuing approval of electronic voting system.**

(1) The elections commission may revoke the approval of any existing electronic voting system if it does not comply with the provisions of this chapter. As a condition of maintaining the elections commission's approval for the use of the voting system, the vendor shall inform the elections commission of all changes in the hardware, firmware and software and all jurisdictions using the voting system.

(2) The vendor shall, at its own expense, furnish, to an agent approved by the elections commission, for placement in escrow, a copy of the programs, documentation and source code used for any election in the state.

(3) The electronic voting system must be capable of transferring the data contained in the system to an electronic recording medium, pursuant to the provisions of s. [7.23](#), Stats.

(4) The vendor shall ensure that election results can be exported on election night into a statewide database developed by the elections commission.

(5) For good cause shown, the elections commission may exempt any electronic voting system from strict compliance with this chapter.

**History:** Cr. [Register, June, 2000, No. 534](#), eff. 7-1-00; **correction in (1), (4), (5) made under s. 13.92 (4) (b) 6., Stats. and corrections in (5) made under s. 13.92 (4) (b) 7., Stats., and s. 35.17, Stats., Register June 2016 No. 726.**

**Appendix C: US-EAC Certificate of Conformance / Scope of Certification**  
(Begins on next page)



United States Election Assistance Commission

Certificate of Conformance

ES&S EVS 5.2.4.0



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

Product Name: EVS

Model or Version: 5.2.4.0

Name of VSTL: Pro V&V

EAC Certification Number: ESSEVS5240

Date Issued: June 5, 2018

A handwritten signature in blue ink, appearing to be "B. D. L.", written over a horizontal line.

Executive Director  
U.S. Election Assistance Commission

Scope of Certification Attached

**Manufacturer:** *Election Systems & Software*

**Laboratory:** *Pro V&V*

**Certificate:** *ESSEVS5240*

**Date:** *June 5, 2018*



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## Scope of Certification

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**System Name:** *EVS 5.2.4.0*

**Standard:** *VVSG 1.0 (2005)*

This document describes the scope of the validation and certification of the system defined above. Any use, configuration changes, revision changes, additions or subtractions from the described system are not included in this evaluation.

### Significance of EAC Certification

An EAC certification is an official recognition that a voting system (in a specific configuration or configurations) has been tested to and has met an identified set of Federal voting system standards. An EAC certification is **not**:

- An endorsement of a Manufacturer, voting system, or any of the system's components.
- A Federal warranty of the voting system or any of its components.
- A determination that a voting system, when fielded, will be operated in a manner that meets all HAVA requirements.
- A substitute for State or local certification and testing.
- A determination that the system is ready for use in an election.
- A determination that any particular component of a certified system is itself certified for use outside the certified configuration.

### Representation of EAC Certification

Manufacturers may not represent or imply that a voting system is certified unless it has received a Certificate of Conformance for that system. Statements regarding EAC certification in brochures, on Web sites, on displays, and in advertising/sales literature must be made solely in reference to specific systems. Any action by a Manufacturer to suggest EAC endorsement of its product or organization is strictly prohibited and may result in a Manufacturer's suspension or other action pursuant to Federal civil and criminal law.

## System Overview:

ES&S EVS 5.2.4.0 is comprised of the ExpressVote® Universal Voting System version 1.0 (ExpressVote 1.0), ExpressVote® (versions 2.1.0.0, and 2.1.2.0) Universal Voting System (ExpressVote 2.1), DS200® Precinct Digital Scanner and Tabulator (DS200), DS450® Central Count Digital Scanner and Tabulator (DS450), DS850® Central Count Digital Scanner and Tabulator (DS850), AutoMARK® Voter Assist Terminal (AutoMARK) versions A100, A200 & A300, Electionware® Election Management System (Electionware), Election Reporting Manager® (ERM), ES&S Event Log Service (ELS), Removable Media Service (RMS), ExpressVote Previewer and VAT Previewer.

- The ExpressVote is a universal vote capture device designed for all voters, with independent voter-verifiable paper record that is digitally scanned for tabulation. This system combines paper-based voting with touch screen technology. The ExpressVote includes a mandatory vote summary screen that requires voters to confirm or revise selections prior to printing the summary of ballot selections using the internal thermal printer. Once printed, ES&S ballot scanners process the vote summary card. The ExpressVote can serve all voters, including 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.
- DS200 digital scanner is a paper ballot tabulator designed for use as a polling place scanner. After the voter makes their selections on their paper ballot, their ballot or vote summary card is inserted into the unit for immediate tabulation. Both sides of the ballot are scanned at the same time using a high-resolution image-scanning device that produces ballot images.
- The DS450 is a scanner and tabulator that simultaneously scans the front and back of a paper ballot and/or vote summary card. It can also handle folded ballots and can read ballots in any of four orientations. The DS450 sorts tabulated ballots into discrete output bins without interrupting scanning. 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.
- 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 Election Reporting Manager. 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 enables voters who are visually or physically impaired and voters more comfortable reading or hearing instructions and choices in an alternative language to privately mark optical scan ballots. The AutoMARK supports navigation through touchscreen, physical keypad or ADA support peripheral such as a sip and puff device or two-position switch.
- Electionware integrates the election administration functionality into a unified application. Its intended use is to define an election and create the resultant media files used by the ExpressVote, DS200, AutoMARK, DS450, DS850, and ERM. An integrated ballot viewer allows election officials to view the scanned ballot and captured ballot data side-by-side and produce ballot reports.
- ERM generates paper and electronic reports for election workers, candidates, and the media. Jurisdictions can use a separate ERM installation to display updated election totals on a monitor as ballot

data is tabulated, and send the results reports directly to the media outlets. ERM supports accumulation and combination of ballot results data from all ES&S tabulators.

- ELS is a Windows Service that runs in the background of any active EMS software application to monitor the proper functioning of the Windows Event Viewer. The ELS closes any active ES&S software application if the system detects the improper deactivation of the Windows Event Viewer.
- RMS is an application that runs in the background of the EMS client workstation and supports the installation and removal of election and results media.

The EVS 5.2.4.0 is a modified voting system configuration that includes upgrades to the components of the EVS 5.2.3.0 and introduces a new hardware version for the ExpressVote (versions 2.1.0.0 and 2.1.2.0). EVS 5.2.4.0 adds four new ExpressVote configuration options:

Quad Express Cart, MXB ExpressVote Voting Booth, ExpressVote Single Table and ExpressVote Double Table. EVS 5.2.4.0 also adds a new ADA table configuration for the AutoMARK; provides security upgrades to third-party EMS COTS products; and contains minor enhancements to Electionware and ExpressVote.

**Mark Definition:**

ES&S’ declared level mark recognition for the DS200, DS450 and DS850 is a mark across the oval that is 0.02” long x 0.03” wide at any direction.

**Tested Marking Devices:**

Bic Grip Roller Pen

**Language Capability:**

EVS 5.2.4.0 supports English, Spanish, Chinese (Cantonese), Korean, Japanese and Bengali.

**Components Included:**

This section provides information describing the components and revision level of the primary components included in this Certification.

System Component	Software or Firmware Version	Hardware Version	Operating System or COTS	Comments
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		98-00049		
ExpressVote Voting Booth		87001		Stationary Voting Booth
Quad Express Cart		41404		Portable Voting Booth
MXB ExpressVote Voting Booth		95000		Stationary Voting Booth

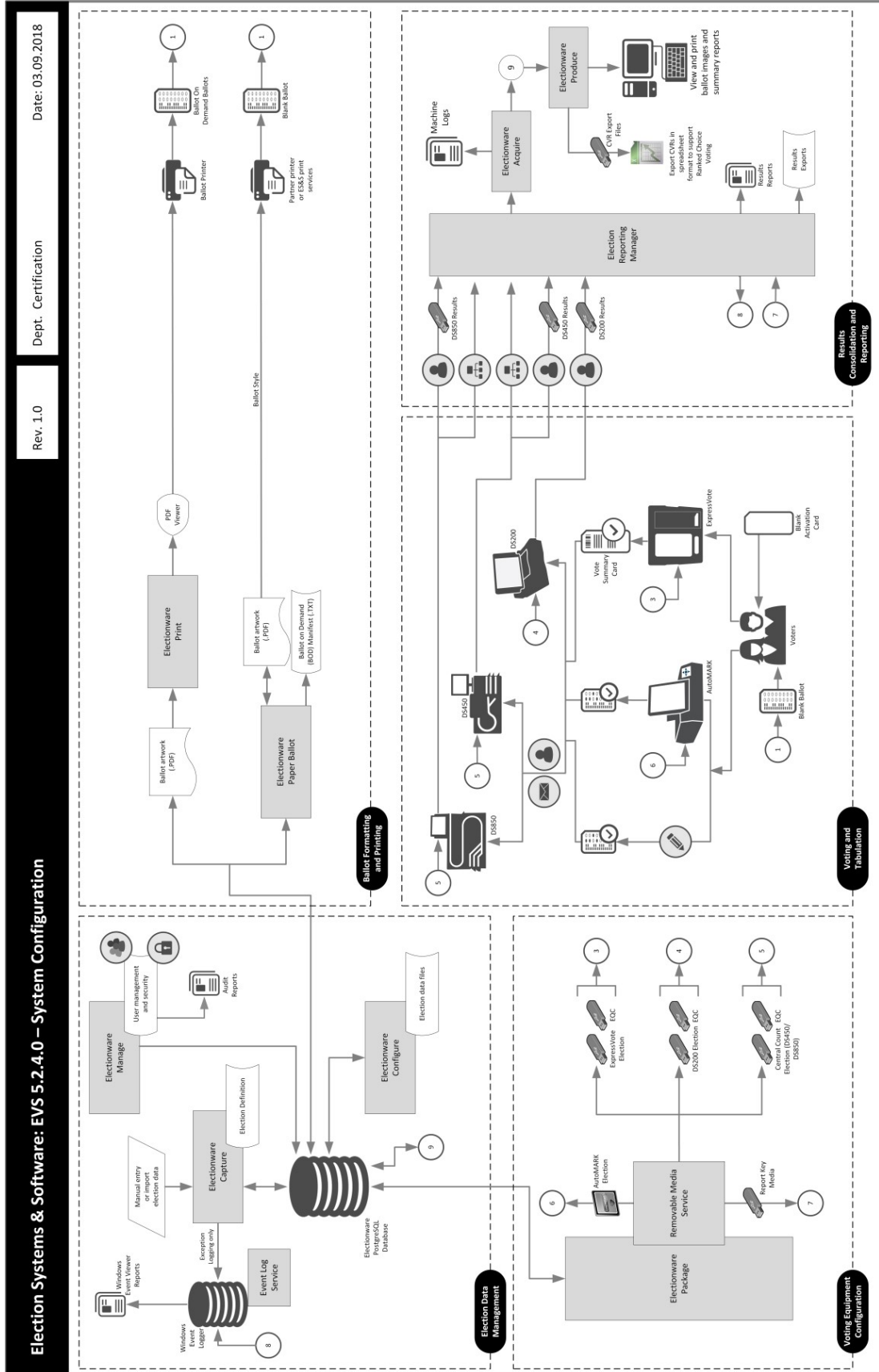


ExpressVote Single Table		87033		Voting Table for One Unit
ExpressVote Double Table		87032		Voting Table for Two Units
ADA Table		87031		Voting Table for One Unit
DS200	2.12.2.0	1.2.1, 1.2.3, 1.3		Precinct Count Tabulator

System Component	Software or Firmware Version	Hardware Version	Operating System or COTS	Comments
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		98-00009		Collapsible Ballot Box
DS200 Tote Bin		00074		Tote Bin Ballot Box
DS450	3.0.0.0	1.0		Central Count Scanner and Tabulator
DS450 Cart		3002		
DS850	2.10.2.0	1.0		Central Count Scanner and Tabulator
DS850 Cart		6823		
AutoMARK A100	1.8.6.1	1.0		Ballot Marking Device
AutoMARK A200	1.8.6.1	1.1, 1.3		Ballot Marking Device
AutoMARK A300	1.8.6.1	1.3		Ballot Marking Device
AutoMARK Table		87033		
Electionware	4.7.1.4			
Election Reporting Manager (ERM)	8.12.1.1			
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			
SecureSetup	2.0.0.1			Proprietary Hardening Script

EMS Server		Dell PowerEdge T710		
EMS Client Workstation		Dell Optiplex 980 or 5040		
EMS Client Workstation		Dell Latitude E6410		
EMS Standalone Workstation		Dell Latitude E6410		
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		
System Component	Software or Firmware Version	Hardware Version	Operating System or COTS	Comments
SanDisk: CF Card Reader		018-6305		
Headphones		Avid 86002		
Zebra QR code scanner		DS457-SR20009		Integrated with Rolling Kiosk
Symbol QR Code scanner		DS9208		External
DS450 Report Printer		Dell S2810dn		Laser report printer
DS850 Report Printer		OKI B431dn & Oki B431d		Laser report printer
DS450 and DS850 Audit Printer		Oki Microline 420		Dot Matrix Printer
DS450 UPS		APC Back-UPS Pro 1500		
DS450 and DS850 Surge Protector		Tripp Lite Spike Cube		
DS850 UPS		APC Back-UPS RS 1500 or Pro 1500		
Adobe Acrobat Standard	11		COTS	
Cerberus FTP	9.0.3.1 (64-bit)		COTS	

Microsoft Server 2008	R2 w/ SP1		COTS	
Microsoft Windows 7 Professional	SP1 (64-bit)		COTS	
WSUS Microsoft Windows Offline Update Utility	11.1.1		COTS	
Micro Focus RM/COBOL Runtime	12.06		COTS	
Symantec Endpoint Protection	14.0.1_MP1		COTS	
Symantec Endpoint Protection Intelligent Updater	20180227-001core3sds5i64.exe		COTS	File-Based Anti-Virus Protection
Symantec Endpoint Protection Intelligent Updater	20180226-040-IPS_IU_SEP_14RU1.exe		COTS	Network-Based AntiVirus Protection
Symantec Endpoint Protection Intelligent Updater	20180225-001-SONAR_IU_SEP.exe		COTS	Behavior-Based AntiVirus Protection



## System Limitations

This table depicts the limits the system has been tested and certified to meet.

System Characteristic	Boundary or Limitation	Limiting Component
Max. precincts allowed in an election	9,900	ERM
Max. count for any precinct element	500,000 (99,900 from any tabulator media)	ERM report (ERM results import)
Max. candidates allowed per election	Depends on election content (limited by 21,000 maximum counters)	ERM
Max. contests allowed in an election	Depends on election content (limited by 21,000 maximum counters)	ERM
Max. counters allowed per precinct	Limits candidates and contests assigned to a precinct to 1,000	ERM
Max. contests allowed per ballot style	200 or number of positions on ballot	N/A
Max. candidates (ballot choices) allowed per contest	175	ERM (database create)
Max. number of parties allowed	General election: 75 Primary election: 20 (including nonpartisan party)	ERM (database create)
Max. 'vote for' per contest	98	ERM (database create)
Ballot formats	All paper ballots used in an election must be the same size and contain the number of response rows.	Ballot scanning equipment
Max. Ballot Styles	9,900	ERM
Max. District Types/Groups	20	ERM
Max. districts of a given type	40	ERM

Supported Languages	<ul style="list-style-type: none"> <li>• English</li> <li>• Spanish</li> <li>• Chinese (Cantonese)</li> </ul>	<ul style="list-style-type: none"> <li>• Korean</li> <li>• Japanese</li> <li>• Bengali</li> </ul>	System Configuration
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## Component Limitations:

### Paper Ballot Limitations

1. The paper ballot code channel, which is the series of black boxes that appear between the timing track and ballot contents, limits the number of available ballot variations depending on how a jurisdiction uses this code to differentiate ballots. The code can be used to differentiate ballots using three different fields defined as: Sequence (available codes 126,839), Type (available codes 1-30) or Split (available codes 1-40).
2. If Sequence is used as a ballot style ID, it must be unique election-wide and the Split code will always be 1. In this case the practical style limit would be 26,000.

### ExpressVote

1. ExpressVote capacities exceed all documented limitations for the ES&S election management, vote tabulation and reporting system. For this reason, Election Management System and ballot tabulator limitations define the boundaries and capabilities of the ExpressVote system as the maximum capacities of the ES&S ExpressVote are never approached during testing.

### DS200

1. The ES&S DS200 configured for an early vote station does not support precinct level results reporting. An election summary report of tabulated vote totals is supported.
2. The DS200 storage limitation for write-in ballot images is 3,600 images. Each ballot image includes a single ballot face, or one side of one page.
3. Write-in image review requires a minimum 1GB of onboard RAM.
4. To successfully use the Write-In Report, ballots must span at least three vertical columns. Using two columns or fewer results in the write-in area being too large to print on the report tape.

### AUTOMARK Voter Assist Terminal

1. ES&S AutoMARK capacities exceed all documented limitations for the ES&S election management, vote tabulation and reporting system. For this reason, Election Management System and ballot tabulator limitations define the boundaries and capabilities of the AutoMARK system as the maximum capacities of the ES&S AutoMARK are never approached during testing. **Electionware**

1. Electionware capacities exceed the boundaries and limitations documented for ES&S voting equipment and election reporting software. For this reason, ERM and ballot tabulator limitations define the boundaries and capabilities of Electionware system.
2. Limits were calculated using default text sizes for ballot and report elements. Some uses and conditions, such as magnified ballot views or combining elements on printed media or ballot displays, may result in limits lower than those listed. Check printed media and displays before finalizing the election.
3. The Electionware Export Ballot Images function is limited to 250 districts per export.
4. Special characters are not supported and may not appear properly when viewed on equipment displays or reports.

5. Electionware cannot display more than 30,000 images when filtering ballot images for display. Employ one or more filters to ensure that the number of ballots viewed is less than 30,000.

**Election Reporting Manager (ERM)**

1. Election Reporting Manager requires a minimum monitor screen resolution of 800x600.
2. ERM Database Create allows 1,600 Precincts per Ballot Style.
3. There is a limit of 3,510 precincts in the precincts counted/not counted display.
4. There is a limit of 3,000 precincts in the precincts counted/not counted scrolling display.
5. Contest/Precinct selection pop up display limited to 3,000 contests/precincts.
6. Non-English characters are not supported in ERM. This has to do with the creation of the XML results file out of ERM.
7. ERM's maximum page size for reports is 5,000 pages.

**Functionality**

**2005 VVSG Supported Functionality Declaration**

Feature/Characteristic	Yes/No	Comment
Voter Verified Paper Audit Trails		
VVPAT	No	
Accessibility		
Forward Approach	Yes	
Parallel (Side) Approach	Yes	
Closed Primary		
Primary: Closed	Yes	
Open Primary		
Primary: Open Standard (provide definition of how supported)	Yes	
Primary: Open Blanket (provide definition of how supported)	No	
Partisan & Non-Partisan:		
Partisan & Non-Partisan: Vote for 1 of N race	Yes	
Partisan & Non-Partisan: Multi-member ("vote for N of M") board races	Yes	
Partisan & Non-Partisan: "vote for 1" race with a single candidate and write-in voting	Yes	
Partisan & Non-Partisan "vote for 1" race with no declared candidates and write-in voting	Yes	
Write-In Voting:		
Write-in Voting: System default is a voting position identified for write-ins.	Yes	
Write-in Voting: Without selecting a write in position.	Yes	
Write-in: With No Declared Candidates	Yes	
Write-in: Identification of write-ins for resolution at central count	Yes	
Primary Presidential Delegation Nominations & Slates:		

Primary Presidential Delegation Nominations: Displayed delegate slates for each presidential party	No	
Slate & Group Voting: one selection votes the slate.	No	
Ballot Rotation:		
Rotation of Names within an Office; define all supported rotation methods for location on the ballot and vote tabulation/reporting	Yes	
Straight Party Voting:		
Straight Party: A single selection for partisan races in a general election	Yes	
Straight Party: Vote for each candidate individually	Yes	

Feature/Characteristic	Yes/No	Comment
Straight Party: Modify straight party selections with crossover votes	Yes	
Straight Party: A race without a candidate for one party	Yes	
Straight Party: N of M race (where "N">1)	Yes	
Straight Party: Excludes a partisan contest from the straight party selection	Yes	
Cross-Party Endorsement:		
Cross party endorsements, multiple parties endorse one candidate.	Yes	
Split Precincts:		
Split Precincts: Multiple ballot styles	Yes	
Split Precincts: P & M system support splits with correct contests and ballot identification of each split	Yes	
Split Precincts: DRE matches voter to all applicable races.	No	
Split Precincts: Reporting of voter counts (# of voters) to the precinct split level; Reporting of vote totals is to the precinct level	Yes	It is possible to list the number of voters.
Vote N of M:		
Vote for N of M: Counts each selected candidate, if the maximum is not exceeded.	Yes	
Vote for N of M: Invalidates all candidates in an overvote (paper)	Yes	
Recall Issues, with options:		
Recall Issues with Options: Simple Yes/No with separate race/election. (Vote Yes or No Question)	No	
Recall Issues with Options: Retain is the first option, Replacement candidate for the second or more options (Vote 1 of M)	No	
Recall Issues with Options: Two contests with access to a second contest conditional upon a specific vote in contest one. (Must vote Yes to vote in <sup>nd</sup> 2 contest.)	No	
Recall Issues with Options: Two contests with access to a second contest conditional upon any vote in contest one. (Must vote Yes to vote in <sup>nd</sup> 2 contest.)	No	



Cumulative Voting		
Cumulative Voting: Voters are permitted to cast, as many votes as there are seats to be filled for one or more candidates. Voters are not limited to giving only one vote to a candidate. Instead, they can put multiple votes on one or more candidate.	No	
Ranked Order Voting		
Ranked Order Voting: Voters can write in a ranked vote.	No	
Ranked Order Voting: A ballot stops being counting when all ranked choices have been eliminated	No	
Ranked Order Voting: A ballot with a skipped rank counts the vote for the next rank.	No	

Feature/Characteristic	Yes/No	Comment
Ranked Order Voting: Voters rank candidates in a contest in order of choice. A candidate receiving a majority of the first choice votes wins. If no candidate receives a majority of first choice votes, the last place candidate is deleted, each ballot cast for the deleted candidate counts for the second choice candidate listed on the ballot. The process of eliminating the last place candidate and recounting the ballots continues until one candidate receives a majority of the vote	No	
Ranked Order Voting: A ballot with two choices ranked the same, stops being counted at the point of two similarly ranked choices.	No	
Ranked Order Voting: The total number of votes for two or more candidates with the least votes is less than the votes of the candidate with the next highest number of votes, the candidates with the least votes are eliminated simultaneously and their votes transferred to the next-ranked continuing candidate.	No	
Provisional or Challenged Ballots		
Provisional/Challenged Ballots: A voted provisional ballots is identified but not included in the tabulation, but can be added in the central count.	Yes	
Provisional/Challenged Ballots: A voted provisional ballots is included in the tabulation, but is identified and can be subtracted in the central count	Yes	
Provisional/Challenged Ballots: Provisional ballots maintain the secrecy of the ballot.	Yes	
Overvotes (must support for specific type of voting system)		
Overvotes: P & M: Overvote invalidates the vote. Define how overvotes are counted.	Yes	
Overvotes: DRE: Prevented from or requires correction of overvoting.	No	
Overvotes: If a system does not prevent overvotes, it must count them. Define how overvotes are counted.	Yes	

Overvotes: DRE systems that provide a method to data enter absentee votes must account for overvotes.	No	
Undervotes		
Undervotes: System counts undervotes cast for accounting purposes	Yes	
Blank Ballots		
Totally Blank Ballots: Any blank ballot alert is tested.	Yes	
Totally Blank Ballots: If blank ballots are not immediately processed, there must be a provision to recognize and accept them	Yes	
Totally Blank Ballots: If operators can access a blank ballot, there must be a provision for resolution.	Yes	
Networking		
Wide Area Network – Use of Modems	No	
Wide Area Network – Use of Wireless	No	
Local Area Network – Use of TCP/IP	No	
Local Area Network – Use of Infrared	No	
Local Area Network – Use of Wireless	No	
FIPS 140-2 validated cryptographic module	Yes	
Used as (if applicable):		
<b>Feature/Characteristic</b>	<b>Yes/No</b>	<b>Comment</b>
Precinct counting device	Yes	DS200
Central counting device	Yes	DS450 and/or DS850

### Baseline Certification Engineering Change Orders (ECO)

There are not any ECOs certified with the voting system.

## **Appendix D: Voting System Standards, Testing Protocols and Procedures Pertaining to the Use of Communication Devices**

### **PART I: PROPOSED TESTING STANDARDS**

#### **Applicable VVSG Standard**

The modem component of the voting system or equipment must be tested to the requirements contained in the most recent version or versions of the Voluntary Voting System Guidelines (VVSG) currently accepted for testing and certification by the U.S. Election Assistance Commission (EAC). Compliance with the applicable VVSG may be substantiated through federal certification by the EAC, through certification by another state that requires compliance with the applicable VVSG, or through testing conducted by a federally certified voting system test laboratory (VSTL) to the standards contained in the applicable VVSG. Meeting the requirements contained in the VVSG may substantiate compliance with the voting system requirements contained in Section 301 of the Help America Vote Act of 2002 (HAVA).

#### **Access to Election Data**

Provisions shall be made for authorized access to election results after closing of the polls and prior to the publication of the official canvass of the vote. Therefore, all systems must be capable of generating an export file to communicate results from the election jurisdiction to the Central processing location on election night after all results have been accumulated. The system may be designed so that results may be transferred to an alternate database or device. Access to the alternate file shall in no way affect the control, processing, and integrity of the primary file or allow the primary file to be affected in any way.

#### **Security**

All voting system functions shall prevent unauthorized access to them and preclude the execution of authorized functions in an improper sequence. System functions shall be executable only in the intended manner and order of events and under the intended conditions. Preconditions to a system function shall be logically related to the function so as to preclude its execution if the preconditions have not been met.

#### **Accuracy**

A voting system must be capable of accurately recording and reporting votes cast. Accuracy provisions shall be evidenced by the inclusion of control logic and data processing methods, which incorporate parity, and checksums, or other equivalent error detection and correction methods.

#### **Data Integrity**

A voting system shall contain provisions for maintaining the integrity of voting and audit data during an election and for a period of at least 22 months thereafter. These provisions shall include protection against:

- the interruption of electrical power, generated or induced electromagnetic radiation.

- ambient temperature and humidity.
- the failure of any data input or storage device.
- any attempt at an improper data entry or retrieval procedure.

## **Reliability**

Successful Completion of the Logic and Accuracy test shall be determined by two criteria

- The number of failures in transmission
- and the accuracy of vote counting

The failure or connectivity rate will be determined by observing the number of relevant failures that occur during equipment operation. The accuracy is to be measured by verifying the completeness of the totals received.

## **PART II: TEST PROCEDURES AND PROTOCOLS**

### **Overview of Telecommunication Test**

The telecommunication test focuses on system hardware and software function and performance for the transmission of data that is used to operate the system and report election results. This test applies to the requirements for Volume I, Section 6 of the EAC 2005 VVSG. This testing is intended to complement the network security requirements found in Volume I, Section 7 of the EAC 2005 VVSG, which include requirements for voter and administrator access, availability of network service, data confidentiality, and data integrity. Most importantly, security services must restrict access to local election system components from public resources, and these services must also restrict access to voting system data while it is in transit through public networks. Compliance with Section 7, EAC 2005 VVSG shall be evidenced by a VSTL report submitted with the vendor's application for approval of a voting system.

In an effort to achieve these standards and to verify the proper functionality of the units under test, the following methods will be used to test each component of the voting system:

### **Wired Modem Capability Test Plan**

**Test Objective:** To transfer the results from the tabulator to the Election Management System via a wired network correctly.

#### **Test Plan:**

1. Attempt to transmit results prior to the closing of the polls and printing of results tape
2. Set up a telephone line simulator that contains as many as eight phone lines
3. Perform communication suite for election night reporting using a bank with as many as seven analog modems:

- a. Connect the central site election management system to the telephone line simulator and connect the modems to the remaining telephone line ports
- b. Setup the phone line numbers in the telephone line simulator
- c. Use the simulated election to upload the election results
  - i. Use at least eight tabulators in different reporting units
  - ii. Use as many as two tabulators within the same reporting units
- d. Simulate the following transmission anomalies
  - i. Attempt to upload results from a tabulating device to a computer which is not part of the voting system
  - ii. Attempt to upload results from a non-tabulating device to the central site connected to the modem bank
  - iii. Attempt to load stress by simulating a denial of service (DOS) attack or attempt to upload more than one polling location results (e.g., ten or more polling locations)

### **Wireless Capability Test Plan**

**Test Objective:** To transfer the results from the tabulator to EMS via a wireless network correctly.

**Test Plan:**

1. Attempt to transmit results prior to the closing of the polls and printing of results tape.
2. Perform wireless communication suite for election night reporting:
  - a. Use the simulated election to upload the election results using wireless transfer to the secure FTP server (SFTP)
  - b. Use at least eight tabulators in different reporting units
  - c. Use as many as two tabulators within the same reporting unit
3. Simulate the following transmission anomalies
  - a. Attempt to upload results from a tabulating device to a computer which is not part of the voting system
  - b. Attempt to upload results from a non-tabulating device to the SFTP server
  - c. Attempt to load stress by simulating a denial of service (DOS) attack or attempt to upload more than one polling location results (e.g., ten or more polling locations)
  - d. If possible, simulate a weak signal
  - e. If possible, simulate an intrusion

### **Test Conclusions for Wired and Wireless Transmission**

- System must be capable of transferring 100% of the contents of results test packs without error for each successful transmission.
- Furthermore, system must demonstrate secure rate of transmission consistent with security requirements.
- System must demonstrate the proper functionality to ensure ease of use for clerks on election night.

- System must be configured such that the modem component remains inoperable until after the official closing of the polls and printing of one (1) copy of the results tape.

### **PART III: PROPOSED SECURITY PROCEDURES**

Staff recommends that as a condition of purchase, any municipality or county which purchases this equipment and uses modem functionality must also agree to the following conditions of approval.

1. Devices which may be incorporated in or attached to components of the system for the purpose of transmitting tabulation data to another data processing system, printing system, or display device shall not be used for the preparation or printing of an official canvass of the vote unless they conform to a data interchange and interface structure and protocol which incorporates some form of error checking.
2. Any jurisdiction using a modeming solution to transfer results from the polling place to the central count location may not activate the modem functionality until after the polling place closes.
3. Any municipality using modeming technology must have one set of results printed before it attempts to modem any data.
4. Any municipality purchasing and using modem technology to transfer results from the polling location to the central count location must conduct an audit of the voting equipment after the conclusion of the canvass process.
5. Default passwords provided by ES&S to county/municipality must be changed upon receipt of equipment.
6. Counties must change their passwords after every election.

### **PART IV: CONDITIONS FOR APPROVAL (VENDOR)**

Additionally, staff recommends that, as a condition/continuing condition of approval, ES&S shall:

1. Reimburse actual costs incurred by the G.A.B. and local election officials, where applicable, in examining the system (*including travel and lodging*) pursuant to state processes.
2. Configure modem component to remain inoperative (incapable of either receiving or sending transmissions) prior to the closing of the polls and the printing of tabulated results.

### **APPENDIX E: ExpressLink Testing Protocol**

#### **WEC Protocol for Approving the Elections Systems and Software ExpressLink Component**

## Background

As part of an application submitted on March 17, 2017, Elections Systems and Software (ES&S) requested the Wisconsin Elections Commission (WEC) to certify the ExpressLink component as part of the EVS 5.2.2.0 and EVS 5.3.2.0 systems. ExpressLink was outside of the scope of certification that was granted by the Elections Assistance Commission (EAC) for those systems. The WEC staff review of the application materials for EVS 5.2.2.0 and EVS 5.3.2.0 determined that this component was part of the voting system and should be subject to testing and certification, contrary to the EAC review. This component was not included in the voting equipment system that was certified for use in Wisconsin by the WEC on June 20, 2017. Staff was instructed, however, to create a protocol to test and certify the ExpressLink component outside of the EAC process. Wis. Stat. § 5.91 provides that the WEC may certify any such voting device, automatic tabulating equipment, or related equipment or materials regardless of whether any such system is approved by the EAC and this protocol outlines the procedures for reviewing the ExpressLink consistent with this statutory authority.

## Component Information

The ExpressLink is designed for use by election officials in conjunction with the ExpressVote Universal Voting System that was approved as part of the EVS 5.2.20 and EVS 5.3.2.0 systems. This voting system component consists of both the ExpressLink software application and one piece of hardware, the ExpressVote Activation Card Printer. ExpressLink is a Windows application housed on a laptop computer that uses contest and candidate information imported from Election Ware election management system to determine the appropriate ballot style for a voter. The system then prints the activation barcode using the ExpressVote Activation Card Printer. The ExpressVote Activation Card Printer is a small, thermal, on demand printer used to print the ballot activation barcode on the ExpressVote ballot card. A voter would then use the ballot card that contains the barcode printed via the ExpressLink to activate the correct ballot style on the ExpressVote Universal Voting System.

## Review and Testing Process

1. WEC staff shall complete a review of supporting documentation provided by the vendor that details the functionality of the ExpressLink before functional testing is conducted. The manufacturer shall provide both a full and a redacted set of the following documentation as part of the process to review the component, if applicable:
  - a. Complete specifications for all hardware, firmware and software;
  - b. All technical manuals and documentation related to the component;
  - c. Complete instruction materials necessary for the operation of the equipment and a description of training available to users and purchasers;
  - d. Reports from voting system test laboratories accredited by the US Election Assistance Commission (EAC) demonstrating that the system component functions as described by the vendor in the application materials.

- e. A list of all the states and municipalities in which the system has been approved for use and how long the ExpressLink component has been in use in those jurisdictions.
  - f. If any portion of the materials provided to the Wisconsin Elections Commission is copyrighted, trademarked, or otherwise trade secret, the application shall include written assertion of any protected interests and redacted versions of the application and all materials consistent with any properly asserted protected interests. Simply identifying the individual item as “proprietary” is not sufficient. Any assertion of proprietary rights must include detailed specifics of each item protected, the factual and legal basis for protection, whether there is anything public within the protected item, and if there is, how to extract it along with a statement whether there are costs to do so.
  - g. If applicable, provide the WEC with a list of software components, pursuant to Wis. Stat. § 5.905, that “record and tally the votes cast with this system.” For purposes of this condition, “software components” include vote-counting source code, table structures, modules, program narratives and other human-readable computer instructions used to count votes with this system.
2. The vendor shall submit the component to the WEC for functional testing. The hardware and software submitted for certification testing shall be equivalent, in form and function, to the actual production versions of the component.
- a. An operational status check shall be conducted on the ExpressLink to determine if it functions as described by the vendor using the following procedures:
    - i. Arrange the system for normal operation and power on the system.
    - ii. Perform any servicing, and make any adjustments necessary, to achieve operational status.
    - iii. Operate the equipment in all modes, demonstrating all functions and features that would be used during election operations.
    - iv. Commission staff shall verify that all system functions have been correctly executed.
  - b. Compatibility of the voting system software components or subsystems with one another, and with other components of the voting system environment, shall be determined through functional tests integrating the voting system software with the remainder of the system and to determine if the software meets the vendor’s design specifications.
    - i. The election definition file that is created in ElectionWare for use with the ExpressLink shall be verified to determine if the data contained in that file is accurate.
    - ii. The ExpressLink will be tested in a mock election to determine if it can print barcodes on ExpressVote ballot cards that access the correct ballot styles.



- iii. The ExpressLink will be tested to determine if it can accommodate multiple ballot styles for an election on a single ExpressVote machine.

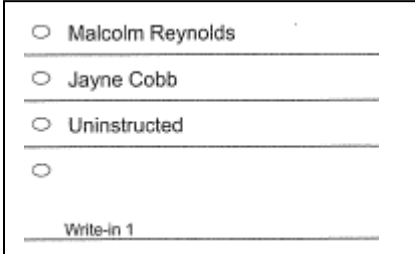
Conditions for Approval (vendor)

Additionally, staff recommends that, as a condition/continuing condition of approval, ES&S shall:

1. Reimburse the WEC for all costs associated with the testing campaign for the ExpressLink, where applicable, pursuant to state processes.
2. Agree to any additional conditions for approval and use that may be identified after the review and testing process is complete.

## APPENDIX F: DS200 Write-In Report Testing and Pilot Test Protocol

In response to clerk interest as well as pending legislation, Commission staff conducted testing on the write-in report functionality of the DS200. Staff created a pilot testing protocol to account for and review how the DS200 would capture images of write-in votes in several scenarios and how the machine would display the write-in votes on the report that would be used to tabulate those votes. These scenarios included circumstances such as write-in votes with a blank oval or a write-in vote as part of an overvote or crossover vote. A total of 80 ballots were marked based on a customized test deck utilizing the election definitions from the General and Presidential Preference test elections. When the write-in report is enabled on the DS200, the write-in area on the ballot is roughly twice the size of what it would normally be, as illustrated by the example to the right.



<input type="radio"/>	Malcolm Reynolds
<input type="radio"/>	Jayne Cobb
<input type="radio"/>	Uninstructed
<input type="radio"/>	
	Write-in 1

The larger write-in area is required to ensure that write-in votes where the corresponding oval is not filled in by the voter will be captured on the write-in report. This programming must be done to allow for write-in votes to be tabulated in accordance with Wis. Stat. §7.50(d), which states that “If an elector writes a person's name in the proper space for write-in candidates for an office, it is a vote for the person written in for the office indicated, regardless of whether the elector strikes the names appearing in the same column for the same office, or places a mark by the same or any other name for the same office, or omits placing a mark to the right of the name written in”. Under the proposed legislation, ballots cast via electronic voting equipment during the in-person absentee voting period would not be reviewed for write-in votes and all tabulation of write-in votes would be done using the output on the write-in report created by the voting equipment.

When programming a ballot with the larger write-in area, it is not possible to have multiple candidate lines represented. Write-in vote areas with two candidate lines are used in both Presidential and Gubernatorial elections in Wisconsin. The programming for the DS200 was unable to accommodate this style of write-in field.

Testing showed that the write-in report functionality records images of write-in votes correctly and accurately. Even though the write-in images are accurately tabulated, when the report is printed by the DS200 thermal printer, it is presented in a contest by contest format. At this time, there is no way to program the DS200 to print the write-in report with write-in votes organized by reporting unit. Election inspectors must review the results tape, looking at each write-in field image so that they can determine to which reporting unit the vote must be attributed. Each ballot style has the corresponding reporting unit number printed on the write-in line.

Through testing, staff learned that the write-in report on the DS200 will only work for traditional paper ballots with appropriately sized write-in lines. There is no way to program the DS200 to capture images of write-in votes on ExpressVote ballots. As with traditional paper ballots, ballots from an ExpressVote with write-in votes will be imprinted with a pink circle by the tabulator prior to being dispatched to the ballot bin. To correctly account for

write-in votes on ExpressVote ballots, they must be identified by election inspectors through a hand tally of ballots.

It is important to note that the write-in report testing was conducted on a pilot basis. Prior to further write-in report testing, staff would need to review the legislation as signed into law and gain Commission approval for an appropriate test protocol. If the Commission wishes staff to further explore DS200 write-in report testing or implementation, staff will work with Commissioners and management to address next steps.

**Write-in Report Testing Checklist**

Requirement	Pass: Y or N	Notes
Early voting demonstration from vendor (open polls multiple times, end of night procedures without closing polls, etc.)	Y	DS200 is simply shut down at the end of day with auto generated report cancelled by clerk; or lid can be closed and locked w/o powering down, putting it into a "sleep" mode.
Write-in report testing scenarios (outlined below): per the test deck	Y	If a ballot has write-ins that are part of a crossover or overvote situation, those votes do not appear on the report.
Write-in totals on tape and inclusion on write-in report: do they match the expected results?	Y	Since overvotes and crossover votes are not tallied nor captured on the write-in report, all contests tested reconciled.
Machine with multiple reporting units (simulate early voting scenario): Are the write-in records itemized by ward/precinct/reporting unit?	N	EVS5240/5340 prints the write-in report by contest. Each write-in vote is accompanied by a marker on the line that corresponds with the ward, "Write-In 1 _____" and so on. ES&S states that an upgraded version where write-ins are printed by ward is in the works. **ExpressVote cards are not able to be included on the write-in capture report. Inspectors must still find those ballots by hand. ES&S states there are no plans to change this**

1. Write-in Scenarios

- i. Oval/good vote
- ii. No oval/good vote
- iii. Oval/blank vote
- iv. Oval/w-i/overvote
- v. No oval/w-i/overvote
- vi. Oval/no w-i/overvote
- vii. Oval/crossover (PP, Pres Pref)
- viii. No oval/crossover (PP, Pres Pref)

**APPENDIX G: Wisconsin Voting Equipment Review Panel’s Feedback**

These comments were provided via a structured feedback form.

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

Very Poor	Poor	Fair	Good	Excellent
			2	2

- I like the upgrade where candidates can be seen in two columns so they can be seen on one page

**2. How would you rate the accessible features?**

Very Poor	Poor	Fair	Good	Excellent
			2	2

- I appreciate tables created to hold the ExpressVotes now. We can’t always count on tables of the right height being out at our locations.
- The ExpressVote is voter friendly
- Strip, or half sheet ballots, segregate the voters. If one person uses the ADA machine (ExpressVote), then one could deduce how that person voted
- On the AutoMark machine, the color of the text on the undervote warning is yellow or white. It is very difficult to read even for someone without vision issues. The audio on the AutoMark seemed to work well

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

Very Poor	Poor	Fair	Good	Excellent
			2	2

- I prefer external modems. It should be verified in early voting that the system can produce precinct level results in addition to summary level.
- Very good. I just don’t like having two types of ballots.





# Wisconsin Elections Commission

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**DATE:** For the June 11, 2019 Commission Meeting

**TO:** Members, Wisconsin Elections Commission

**FROM:** Meagan Wolfe  
Administrator, Wisconsin Elections Commission

Prepared and/or Presented by:  
Michelle R. Hawley, WisVote Training Officer  
Michael Sabaka, Elections Security Trainer  
Tony Bridges, Elections Security Lead

**SUBJECT:** Badger Book Update

## **I. Introduction**

The intent of this memorandum is to provide an overall update on the Badger Book program, to report how it performed during the 2019 Spring Election, and to outline WEC staff plans to improve and grow the Badger Book program for the future.

## **II. Background**

Beginning in June 2017, WEC staff developed the Badger Book software using clerk and election inspector feedback as a guiding development principle for this electronic poll book system. During the 2018 Spring Election, the WEC introduced the electronic poll book pilot program and Badger Books have been used in all statewide elections since that pilot. Since fielding Badger Books, WEC staff has sought and received valuable feedback from clerks, election inspectors, and voters which led to continuous enhancements and improvements to software, hardware, training, security, and best practices. WEC staff will continue to use this model to collect feedback that will be used to support and improve the program.

## **III. General Program Status**

So far during 2019, Badger Books were operated during both the Spring Primary and the Spring Election. During the Spring Primary, and due to the limited number of contests throughout the state, two municipalities participated in the borrowing program which included the City of Milwaukee and the City of Neenah. During the 2019 Spring Election, a total of 20 municipalities used Badger Books (17 Purchasers; three Borrowers).

*Wisconsin Elections Commissioners*  
Dean Knudson, chair | Julie M. Glancey | Ann S. Jacobs | Jodi Jensen | Mark L. Thomsen

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Administrator  
Meagan Wolfe

Figure 1 – 2019 Badger Book Users

<b>Elections Wherein Badger Books Were Used</b>	<b>1<sup>st</sup> Cycle 8 Purchasers (2018)</b>	<b>2<sup>nd</sup> Cycle 20 Purchasers (2019)</b>	<b>Total 7 Borrowers (2019)</b>	<b>Total Number of Users</b>
2019 Spring Primary	n/a	n/a	2 Municipalities	2 Municipalities
2019 Spring Election	8 Municipalities	9 Municipalities*	3 Municipalities**	20 Municipalities

\*8 municipalities were unable to use their machines; 3 municipalities did not upload updates, but decided not to use Badger books for Spring Election

\*\* 2 municipalities made decision not to use Badger Books

**Borrowing Program**

After the Badger Book Borrowing Program’s launch during the 2019 Spring Primary (as outlined in the Staff Update for the March 11, 2019 Commission Meeting), a second round of the borrowing program included one polling place in each of the following municipalities: City of Ashland, City of La Crosse and City of River Falls. Clerks, their staff, and Chief Election Inspectors were invited to the WEC office on March 6 to receive in-person training and to accept custody of the machines. The Village of Little Chute and the City of West Bend also attended training, however neither municipality chose to use the Badger Book for the Spring Election. WEC received positive feedback from the borrowing municipalities including statements about how easy the machines were to use and acknowledging the amount of time saved as a result of using Badger Books. No problems were reported from any of these polling locations on Election Day.

WEC will continue to offer borrowing opportunities in 2020 and staff intends to disseminate a survey on or before Monday, May 31, 2019 to identify interested municipalities. WEC staff also intends to investigate potential opportunities to outsource the distribution of the borrowing program in the future to ease the administrative burden of this program.

Figure 2 – 2019 Spring Election Borrowing Sites

<b>Municipality</b>	<b>County</b>	<b>Polling Location</b>	<b>Ward(s)</b>
City of Ashland	Ashland & Bayfield Counties	Bretting Center	1,3,5
City of LaCrosse	LaCrosse County	South Community Library	20, 23-24
City of River Falls	Pierce & St. Croix Counties	City Hall	5-8



### **Purchasers**

During the 2019 Spring Election, the Badger Books were used by 17 purchaser municipalities (eight original purchasers and nine that purchased in the 2019 cycle). To support the new cycle of purchasers, WEC staff provided the opportunity to attend an in-person training at the Pyle Center in Madison on March 5 or to participate in a five-part webinar series that ran from February 28 until March 14. In some cases, clerks and their staff took part in a combination of both in-person and webinar trainings. Clerks conducted training for their election inspectors in advance of Election Day with the help of a template PowerPoint presentation, written materials, and instructions created by WEC staff.

Prior to Election Day, WEC staff became aware of an error in the Election Day Registration feature as a result of the added development to scan Wisconsin Driver Licenses for voter information, meant to improve the speed and efficiency of the check-in process. The error required an update to the Badger Book software, which currently receives updates offline via a USB device. Additionally, clerks provided feedback that the user profiles available on the machines were confusing and expressed a desire for a process that created automatic back-ups throughout Election Day. Finally, there were necessary operating system updates that needed to be applied to the Badger Books. To remedy these issues, on March 21, WEC staff prepared and overnight shipped a set of updates intended to fix the Badger Book software error and to adjust Windows settings and configuration to make the machines more election inspector friendly.

Unfortunately, an error in the update that went undetected during testing resulted in machines becoming unable to boot up after the update was installed. As soon as staff became aware of the faulty updates on March 22, all clerks were notified to not apply the updates. Unfortunately, eight of the 2019 purchasing municipalities (City of Brookfield, City of Muskego, City of Elkhorn, City of Waukesha, Town of Washington, Village of Bayside, Village of Campbellsport, and Village of Hales Corners) applied the updates before receiving the warning, rendering the machines unusable and in need of reimaging. In consultation with the hardware vendor, it was determined that it would not be possible to reimage or replace the impacted devices prior to Election Day. Instead, staff prepared a version of the update containing only essential changes and thoroughly tested it on in-house devices before mailing it overnight. On March 26, the municipalities unaffected by the faulty updates received an isolated Badger Book software update and instructions on how to take manual data back-ups throughout Election Day and successfully used their Badger Books for the 2019 Spring Election. Three of the 2019 purchasing municipalities chose not to install the updates or use Badger Books during the Spring Election (City of Monona, Village of Fox Point, and Village of Menomonee Falls).

As a result of the faulty update, three affected municipalities, the Cities of Brookfield, Muskego, and Waukesha, decided to return their Badger Books to Paragon Development Service (PDS), the Badger Book hardware provider. As mentioned above, the Villages of Fox Point and Menomonee Falls did not install the updates. Prior to the update and for unrelated reasons, these municipalities returned their Badger Books to PDS.

A handful of issues were reported on Election Day including a small number of inoperable printers and problems scanning Wisconsin State IDs. Upon notification of these issues, WEC staff provided guidance to remedy the problems so that the Badger books could continue to be used throughout Election Day.

During the 2019 Spring Election, WEC staff successfully implemented the new post-election data upload process. Prior to this implementation, specific voter participation, including Election Day Registrations (EDR) and absentee ballot information, was provided to the WEC staff via a secure file transfer protocol (FTP) process and then uploaded to WisVote using a back-end data import process. With the new process, a municipality with 2,600 voters in the Spring Election took under 30 minutes to successfully upload and review their election participation, process their EDR data, and record absentee ballot information in WisVote, where previously this process would typically take days or weeks to complete. The successful launch of the new upload functionality provided clerks a user interface to perform the upload without WEC staff intervention.

WEC staff worked closely with clerks and conducted usability sessions to obtain beneficial feedback to ensure the new post-election data upload process was efficient and user friendly. Additionally, staff conducted a webinar on April 30 for all participating municipalities and provided written instructions to complement the content of the webinar. The upload functionality became available for use in WisVote on May 2. On May 3, to ensure the upload functionality performed as intended, WEC staff selected and worked with two municipalities to conduct a live test in the WisVote production environment. After finding no issues, the remaining municipalities were provided an “all clear” and instructed to complete the post-election upload process. By May 15, all 20 municipalities that used Badger Books in the 2019 Spring Election successfully recorded their participation, EDRs, and absentee ballot information with the new upload feature. While the new process came with a couple of minor incidents (e.g., a municipality that uploaded a back-up file from Election Day instead of the final data file), it provided some insight to how WEC staff can improve future guidance and instructions. Overall, WEC staff received an overwhelming number of positive reviews about the ease of the process and how much time it saved from entering and recording participation data post-election.

*Figure 3 – 2019 Spring Election Purchaser Sites*

<b>Municipality</b>	<b>County</b>	<b>Polling Location</b>	<b>Ward(s)</b>
City of Fort Atkinson	Jefferson County	Fort Atkinson Municipal Building	1-9
City of Lancaster	Grant County	Lancaster City Hall	1-6
City of Omro	Winnebago County	Omro Area Community Center	1-8
City of Reedsburg	Sauk County	Reedsburg Recreation Center	1-14
City of Rice Lake	Barron County	Rice Lake City Hall	1-13
City of Sun Prairie	Dane County	Colonial Club Patrick Marsh School Sun Prairie Library Westside Community Service Building	1-5 6-9, 23 10-14, 20-22, 24-25 15-19
Town of Trenton	Washington County	Trenton Town Hall	1-8
Town of Waukesha	Waukesha County	Waukesha Town Fire Station Waukesha Town Hall	1-6, 8 7, 9-12
Village of Cottage Grove	Dane County	Cottage Grove Village Hall	1-12

Village of DeForest	Dane County	De Forest Area Public Library De Forest Village Hall	1-6, 14-18, 21 7-13, 19-20, 22
Village of Jackson	Washington County	Jackson Village Hall	1-12
Village of McFarland	Dane County	McFarland Municipal Center	1-12
Village of Pleasant Prairie	Kenosha County	Pleasant Prairie Village Hall (Auditorium) Pleasant Prairie Village Hall (Courtroom) Caterpillar College Preschool Recplex	1-3 4-5 6-7, 12 8-11
Village of Salem Lakes	Kenosha County	Salem Lakes Village Hall	11-13
Village of Slinger	Washington County	Slinger Village Hall	1-9
Village of Weston	Marathon County	Weston Municipal Center Wausau Homes Scout Center Key to Life Community Center Greenheck Fieldhouse	1-2, 4-5 3, 8 6-7 9-13
Village of Wrightstown	Brown & Outagamie Counties	Wrightstown Village Hall	1-3 4-5

**IV. Future of Software Updates**

As outlined above, the 2019 Spring Election produced some challenges and lessons learned related to software updates. Going forward, Badger Books must accommodate changes in election laws, provide enhancements to the user experience, and continue to ensure the security of the Badger Book software and data collected on Election Day. WEC staff must develop a sustainable model to disseminate future software updates. As a result, WEC staff is in the process of researching the following potential options:

- a. Download from WisVote:** WEC staff could use WisVote as the secure platform to deliver the most current software version. The intent is that WEC staff will be able to create a sub-navigational tile or other feature from where the software update would be available. Clerks would then access WisVote, an application that already requires multi-factor authentication, download the update from their municipal computers, save it to an approved USB device, and upload it to the Badger Book server machine. The Badger Books themselves would never connect directly to the internet. This option is the staff’s preferred course of action.
- b. Dedicated Website/Portal:** WEC staff could upload the most current software version to a new or existing WEC website for the clerks to access with a login and password. The intent is that the clerk would access the file, download it on their municipal computers, save it to an approved USB device, and then upload the update to the Badger Book server machine. Again, the Badger Books themselves would never connect directly to the internet.
- c. Badger Book Server Connection via Internet:** Prior to Election Day, the Badger Book server could be connected to the internet to download the latest Badger Book software update from a secure website and/or link provided by the WEC staff. WEC staff would recommend the installation of the update prior to election inspector training to ensure the most current version is

used to train election inspectors and to help guarantee the machines will continue to remain offline on Election Day. An additional benefit of this approach is the opportunity for WEC staff to conduct health checks and to monitor machines while online. Significant care must be taken with this option to ensure the security of the devices during the connection.

Currently, the method favored by WEC staff is option (a), providing the download option using the WisVote application and functionality. Staff prefers this option for multiple reasons. The first reason is because of the security already built into the WisVote website, made even more secure by WEC's updated WisVote Access Policy, which now includes a requirement for clerks to use multi-factor authentication to access the voter registration database. Another reason staff prefers option (a) is that this platform provides a more efficient and timely manner in which to make software updates available, as well as remove updates, as needed. Finally, the method provides a platform for which the clerks already have secured access and familiarity, removing the need to perhaps establish new user names and passwords, or educate clerks about another program.

As this program grows and the potential demand for a more efficient means of receiving software updates dictates, it may be necessary for WEC staff to research additional options to securely and effectively provide Badger Book software updates for the users.

## **V. Future of Technical Support**

As the Badger Book program continues to grow, WEC staff recognizes that sustainable technical support will be imperative, and depending on the ultimate scale of the program, it will likely become necessary to arrange for external support from a third party. Wisconsin municipalities vary greatly when it comes to availability of IT staff resources, and some have little to no IT technical support. WEC staff is in the process of researching and considering options including, and not limited to:

- The WEC Election Security Team is currently researching how the WEC might aid in establishing regional IT support, with the intent that the regional support teams provide general IT support such as performing health checks, installing patches, and ensuring devices are running up to date operating systems, browsers, and other software. With this model, the WEC may be able to also incorporate IT support for Badger Books.
- Enlisting greater assistance from the Wisconsin Division of Enterprise Technology to provide future support for the Badger Book Program.
- Hiring an outside vendor/contractor to provide technical and help desk level support for Badger Books.
- Hiring a dedicated Badger Book WEC staff person.

## **VI. Projected Program Growth**

WEC staff expects to send out a communication and survey on or before Friday, May 31 to gauge interest for the next round of Badger Book purchasing. Orders must be received no later than

October 31, 2019 to ensure delivery to the clerks prior to the end of the calendar year. The purchasing window will likely encompass the month prior to the order deadline.

Staff will work with municipal clerks to improve upon methods and materials with the intention of continuing to use the train-the-trainer approach to support Badger Book training. This strategy includes WEC-led training sessions with clerks to familiarize them with Badger Book functionality, hardware setup, program maintenance, security, and best practices. Clerks will then be expected to work with their Chief Election Inspector(s), or another designated election inspector, to serve as the “super user” or point of contact for Election Day issues that arise in a polling location. This user should have administrative level access to the Badger Books, be comfortable with new technology, and attend one-on-one training with their clerk. This user should also be present at Badger Book Election Inspector training, administered by the clerk to increase their familiarity with the software functionality and hardware setup. It is recommended that Badger Book training for election inspectors should occur 1-2 weeks before Election Day for knowledge retention purposes.

The Badger Book is becoming an integral feature of Wisconsin elections and will remain so in the future. While this project remains relatively new, and WEC staff and clerks continue to develop, learn, and grow through this process, it is expected that the program will eventually grow too large for the WEC staff to support on its own. As indicated above, staff is conducting research on how to best support a more sustainable program model and will continue to seek and incorporate feedback from clerks, election inspectors, voters, and others to help ensure the success of the Badger Book well into the future.

## **VII. Recommended Motions**

WEC staff recommends the Commission approve the following actions:

**MOTION #1:** Authorize the WEC staff recommendation in Section IV (a) of the memorandum to move forward with design and development of necessary processes to use WisVote as the host for future Badger Book software updates.

**MOTION #2:** Authorize the WEC staff to research a sustainable software and hardware support model for existing and prospective Badger Book users.





# Wisconsin Elections Commission

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**DATE:** For the June 11, 2019 Commission Meeting

**TO:** Members, Wisconsin Elections Commission

**FROM:** Meagan Wolfe  
Administrator

Prepared and Presented by:  
Robert Williams  
Elections Specialist

**SUBJECT:** Legislative Update

## NEW STATE LEGISLATION

1. *Senate Bill 108 and Assembly Bill 89: Clarification on filling vacancies in elective offices in cities and villages.*

Sponsors: Bipartisan. These bills reorganize the statutes prescribing the methods for filling vacancies in elective offices in cities and villages. The bill also clarifies that a vacancy in an elective office in a city or village may be filled by appointing a successor to serve the residue of the term or until a special election is held. The bill also clarifies that the office may remain vacant until the next regularly scheduled election is held.

A public hearing for SB 108 was held on May 7, 2017. AB 89 was introduced on March 21, 2019 and remains in committee.

2. *Senate Bill 159: Implementing various changes to laws related to elections and voting.*

Sponsors: Minority. Under this bill, numerous election related laws are updated or introduced. These include: Automatic voter registration, a voter's bill of rights, polling place language requirements, additional requirements for election manual revision, a prohibition on sharing certain voter information, and an additional prohibition on deceptive election practices, voter intimidation, or voter suppression.

SB 159 was introduced on April 11, 2019 and referred to the Committee on Elections, Ethics, and Rural Issues.

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Dean Knudson, chair | Julie M. Glancey | Ann S. Jacobs | Jodi Jensen | Mark L. Thomsen

Administrator  
Meagan Wolfe

3. *Senate Bill 193 and Assembly Bill 203: Allowing for the use of electronic voting machines during in person absentee voting.*

Sponsors: Bipartisan. These bills authorize a municipality to utilize their electronic voting equipment (e.g. tabulators) for in person absentee voting. Interested municipalities would, under this bill, pass a resolution for implementation. The Elections Commission then determines municipal implementation capabilities and grants final certification. If use of tabulation equipment is approved and enacted under these bills, votes from ballots cast during in person absentee voting are not tabulated by the equipment until polls close on election day.

SB 193 was introduced on April 30, 2019 and referred to the Committee on Elections, Ethics, and Rural Issues. AB 203 was introduced on May 10, 2019 and referred to the Committee on Campaigns and Elections. A joint public hearing regarding both bills is scheduled for May 29, 2019.

4. *Senate Bill 197 and Assembly Bill 185: Electing the President of the United States by means of a national popular vote based on an agreement between states.*

Sponsors: Minority. These bills ratify an agreement between states to certify the winner of the national popular vote as the recipient of the state's electoral votes. Under the agreement, the Elections Commission must certify to other states which are parties to the agreement the winners of the presidential and vice-presidential vote in Wisconsin. The agreement governs the election of presidential electors, pledging the presidential electors of Wisconsin to the winner of the national popular vote. The agreement would be in effect if adopted by states that cumulatively possess a majority of electoral votes.

SB 197 was introduced on April 30, 2019. AB 185 introduced on April 25, 2019. Both bills remain in committee.

5. *Assembly Bill 168: Amending the requirement that a voter state their name and address prior to voting.*

Sponsors: Bipartisan. If a voter is unable to state their name and address, under this bill, they may provide their acceptable photo identification to an election official. The election official, or another person chosen by the voter, must then state aloud the voter's name and address.

AB 168 was introduced on April 15, 2019. A public hearing related to the bill was held on April 23, 2019 and executive sessions for each bill were scheduled for May 29, 2019.

6. *Senate Bill 221 and Assembly Bill 244: Allowing an elector to use a W-2 form to establish residence.*

Sponsors: Bipartisan. These bills would permit the use of a W-2 form as a valid form of proof of residence for voter registration.



SB 221 was introduced on May 23, 2019 and referred to the Committee on Elections, Ethics and Rural Issues. AB 244 was introduced on May 24, 2019 and referred to the Committee on Campaigns and Elections.

7. *Senate Bill 240 and Assembly Bill 245: Relating to elections administration, recall petitions and recount procedures.*

Sponsors: Bipartisan. These bills include numerous administrative and technical provisions of the WEC's legislative agenda related to recall petitions, recount procedures and miscellaneous election administration matters.

Both bills were introduced on May 24, 2019 and referred to committee. A joint public hearing regarding both bills was scheduled for May 29, 2019.

8. *Senate Bill 241 and Assembly Bill 246: Relating to voter registration.*

Sponsors: Bipartisan. These bills include numerous administrative and technical provisions of the WEC's legislative agenda related to voter registration.

Both bills were introduced on May 24, 2019 and referred to committee. A joint public hearing regarding both bills was scheduled for May 29, 2019.

9. *Senate Bill 242 and Assembly Bill 247: Relating to absentee voting and voting procedures.*

Sponsors: Bipartisan. These bills include numerous administrative and technical provisions of the WEC's legislative agenda related to absentee voting and voting procedures.

Both bills were introduced on May 24, 2019 and referred to committee. A joint public hearing regarding both bills was scheduled for May 29, 2019.

10. *Senate Joint Resolution 10 and Assembly Joint Resolution 12: Prohibiting the Assembly and Senate from passing certain bills following a general election (first consideration).*

Sponsors: Minority. A first consideration constitutional amendment that provides the Assembly and Senate may not pass any bill affecting the powers of any branch of state government following the November general election until after the next political year commences. Since the resolutions relate to a proposed state constitutional amendment, enactment requires adoption by two successive legislatures and passage of a statewide referendum.

SJR 10 was introduced on March 1, 2019. AJR 12 was introduced on March 7, 2019. Both resolutions remain in committee.

11. *Senate Joint Resolution 13: On the release of a person accused of a crime prior to conviction (first consideration).*

Introduced by the Joint Legislative Council. This first consideration constitutional amendment alters pre-trial detention of defendants and proposes changes to when and if they may be released prior to conviction. Since the resolution relates to a proposed state constitutional amendment, enactment requires adoption by two successive legislatures of a statewide referendum.

12. *Assembly Joint Resolution 32: Allowing referenda to reject acts of the legislature and to propose laws and constitutional amendments via elections (first consideration).*

Sponsors: Minority. This first consideration constitutional amendment provides that no act of the legislature may become effective until at least 120 days after publication. Since the resolution relates to a proposed state constitutional amendment, enactment requires adoption by two successive legislatures of a statewide referendum.

AJR 32 was introduced on April 25, 2019 and remains in committee.

### **PREVIOUS LEGISLATION WITH CHANGE IN STATUS**

1. *Senate Joint Resolution 2 and Assembly Joint Resolution 1: A constitutional amendment to establish and ensure the rights of crime victims (second consideration).*

Sponsors: Bipartisan. This second consideration constitutional amendment provides for a 19-point list of rights for victims of crime in this state. The constitutional amendment also authorizes the victim to enforce his or her rights in court, and the attorney for the government in the case involving the victim may seek enforcement of the victim's rights upon request of the victim.

SJR 2 was approved by both the Senate and Assembly on May 15, 2019. As a result, a referendum related to the constitutional amendment will appear on the ballot at the spring election on April 7, 2020.

2. *Senate Bill 48 and Assembly Bill 43: Allowing an elector to show their marked ballot.*

Sponsors: Bipartisan. The provisions in these bills would eliminate the prohibition in place under current law which makes it a Class I felony for an elector to show their marked ballot to any other person or mark it so that it is identifiable.

An amendment to each bill reinstates the prohibition against an elector marking their ballot so that it is identifiable. A public hearing for SB 48 was held on May 7, 2019 in the Committee on Elections, Ethics and Rural Issues. AB 43 was referred to the Committee on Campaigns and Elections.

3. *Senate Bill 59 and Assembly Bill 56: State finances and appropriations constituting the executive budget act of the 2019 Legislature.*

This bill is the “executive budget bill” under section 16.47 (1) of the statutes. It contains the governor's recommendations for appropriations for the 2019-21 fiscal biennium. The bill contains the WEC’s budget for the 2019-2021 biennium. Also included in the bill are recommendations for

the creation of a nonpartisan redistricting commission, automatic voter registration, and updates to the state's voter identification and in person absentee voting laws.

Public hearings and several executive sessions have been held for both SB 59 and AB 56

4. *Senate Bill 71 and Assembly Bill 64: Aid to counties and municipalities for certain special election costs.*

Sponsors: Bipartisan. This bill requires the Elections Commission to reimburse counties and municipalities for certain costs incurred in the administration of special primaries and special elections for state or national office. A cost is eligible for reimbursement only if certain conditions are met, including that the commission determines the cost is reasonable.

A public hearing for SB 71 was held on May 7, 2019. A public hearing for AB 64 was held on April 23, 2019. Executive sessions for each bill are scheduled for May 29, 2019.

#### **PREVIOUS LEGISLATION WITH NO CHANGE IN STATUS**

1. *Senate Joint Resolution 9 and Assembly Joint Resolution 11: An advisory referendum on an amendment to the U.S. Constitution regarding Citizens United v. F.E.C.*

Sponsors: Minority. These resolutions place a question on the November 2020 ballot asking the people if an amendment to overturn Citizens United v. F.E.C. should be proposed by Congress.

SJR 9 introduced on February 25, 2019. AJR 11 introduced on February 28, 2019. Both resolutions remain in committee.





# Wisconsin Elections Commission

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## MEMORANDUM

**DATE:** For the June 11, 2019 Commission Meeting  
**TO:** Members, Wisconsin Elections Commission  
**FROM:** Meagan Wolfe  
Administrator, Wisconsin Elections Commission

Prepared by Elections Commission Staff

**SUBJECT:** Commission Staff Update

Since the last Elections Commission Update (March 11, 2019), staff of the Commission focused on the following tasks:

### **1. General Activities of Election Administration Staff**

#### 2019 Spring Election and Special Primary in the 64<sup>th</sup> Assembly District

The Spring Election for judicial offices was held on April 2, 2019. The canvass was certified by Commissioner Jensen on April 24, 2019 and Certificates of Election were mailed the same day.

On the same day as the Spring Election, Kenosha and Racine Counties conducted a special primary in Assembly District 64. Three Democratic candidates and one Republican candidate qualified for the primary ballot. The special primary was certified by Commissioner Jensen on April 16, 2019. The special election was conducted on April 30, 2019 and certified by Commissioner Jensen on May 10, 2019.

Staff offered extended hours in support of clerks completing their preparations for the Spring Election and the Special Primary beginning on Friday, March 29<sup>th</sup> and continuing through April 2, 2019.

Friday, March 29, 2019	4:30 p.m. – 6:00 p.m.
Saturday, March 30, 2019	10:00 a.m. – 2:00 p.m.
Monday, April 1, 2019	4:30 p.m. – 6:00 p.m.
Tuesday, April 2, 2019	6:00 a.m. – 10:00 p.m.

Extended hours were also in effect for the Special Election on April 30<sup>th</sup>.

*Wisconsin Elections Commissioners*  
Dean Knudson, chair | Julie M. Glancey | Ann S. Jacobs | Jodi Jensen | Mark L. Thomsen

*Administrator*  
Meagan Wolfe

Friday, April 26, 2019	4:30 p.m. – 6:00 p.m.
Saturday, April 27, 2019	10:00 a.m. – 2:00 p.m.
Monday, April 29, 2019	4:30 p.m. – 6:00 p.m.
Tuesday, April 30, 2019	6:00 a.m. – 8:00 p.m.

### Spring Election Ballot Issues

Overall, the Spring Election itself ran smoothly with few complaints or appeals for assistance. However, in the weeks leading up to the election staff had cause for concern.

Clerks reported an unusually high number of ballot errors that should have been caught had the ballots been proofed as soon as the clerk received them from the printer. Most of the errors were discovered after absentee ballots had been disseminated to voters, requiring corrective action to ensure the voters received corrected ballots. Reports of ballot errors are not uncommon but neither do they occur routinely. While, there have been instances of ballot mistakes serious enough for staff to direct that ballots be reprinted, most errors are not significant enough to justify the cost of reprinting. Due to the gravity of the errors encountered for this election, staff had no recourse but to order clerks to reprint the ballots and reissue corrected ballots to their absentee voters. Staff’s concern increased as the number of days remaining before the election dwindled and errors continued to be reported.

#### *Examples of Reported Ballot Errors*

Town of Spider Lake (Sawyer County) – The instructions for a school district contest to fill two positions were printed as “Vote for not more than 3,” rather than “Vote for not more than 2.”

Kaukauna School District – The amount of the school district bonding referendum was grossly understated.

Village of Hustler (Juneau County) – The instructions for a village trustee contest to fill three positions were printed as “Vote for not more than 2,” rather than “Vote for not more than 3.”

City of St. Croix Falls (Polk County) – The name of a candidate was omitted, and another name printed instead. It is assumed the clerk used a template from a previous election and didn’t change the name.

Town of Johnstown (Polk County) – The candidate name order was reversed in the offices of town clerk and town board supervisor. The incumbent clerk was opposed, and her name was drawn for second place on the ballot but was printed with her name in the first position. In the supervisor contest to fill two positions the name order of the two candidates was also reversed.

School District of Grantsburg (Burnett County) – Fifty-sixty absentee ballots were mailed to voters across 8 of the 9 municipalities in the school district. An unknown number of the school district ballots were printed correctly with instructions to “Vote for not more than 3.” Also unknown was the number of ballots printed incorrectly with instructions to “Vote for not more than 2.” The error was discovered one week before the election by a municipal clerk.

The severity of the effect on absentee voters varied depending on the proximity to the election and the number of affected voters. Consequently, staff's instructions for remediation varied depending on the individual situation. The universal instruction given to all clerks was as follows:

Print the ballots immediately and, if possible, attempt to reach the absentee voters by phone or electronic means to offer expedited delivery of the corrected ballot to the voter.

- Mail a corrected ballot to each absentee voter who did not receive a ballot electronically along with a letter of explanation. The letter was to include:
  - A reminder that the ballot must be received by the municipal clerk no later than 8 p.m. on election night.
  - An explanation of the consequences of not timely returning the replacement ballot and the procedure that would be followed in counting the initial ballot.

Municipal clerks were instructed in the process to follow depending on which ballot is returned or if both ballots are returned:

- If only the initial ballot is returned, the initial ballot is sent to the polling place and processed normally--the flawed contest is counted, if possible, depending on the scenario. If the nature of the defect was such as to obfuscate a determination of voter intent, the defective contest is not counted.
- If only the replacement ballot is returned, the ballot is sent to the polling place and processed normally.
- If both ballots are returned, the first ballot is spoiled, and the replacement ballot is delivered to the polling place and processed normally.
- Track which absentee ballot is sent to the polling place on the absentee ballot log.

#### *Deceased Ballot Candidates*

In two municipalities, candidates whose names were on the ballot passed away after the ballots were printed. The Town of Oneida (Outagamie County) Board elected to nominate a candidate to replace the deceased candidate on the ballot as provided in Wis. Stat. § 8.35(2) (a), (b) and (c). Wis. Stat. § 8.35(2)(d), directs that the municipality must provide stickers containing the nominee's name which are placed on the ballot over the name of the deceased candidate. The Town of Oneida chose to reprint the ballots rather than use stickers because of concerns that the stickers could damage optical scan voting equipment.

The Town of Manchester (Jackson County) was the other municipality where a ballot candidate passed away. Due to the proximity of the election, the town board decided against nominating a replacement candidate opted to leave the deceased candidate's name on the ballot.

### *Other Ballot Issues*

Town of Marion (Waushara County) – Twelve absentee voters received ballots containing a sanitary district contest for which they were not eligible to vote; another twelve absentee voters who were eligible to vote in the sanitary district contest received ballots that did not contain the contest.

Kenosha County - Kenosha County failed to place the office of County Supervisor, District 7 on the April ballot. The incumbent had been appointed in 2018 until a special election could be held on April 2<sup>nd</sup>, 2019. The office had not been noticed as being up for election this April, so an election could not be conducted on April 2<sup>nd</sup>. The Kenosha County Board plans to appoint the incumbent for another year until the term expires and the office is again up for election.

### *Training Plan for Ballot Inspection*

Staff will intensify its training regarding ballot preparation and the importance of inspecting ballot proofs for errors before they are sent to the printer and examining the ballots again as a finished product. Staff will counsel clerks to involve more than one person when checking ballots for errors. The staff recommendation will be to compare the ballot template provided by WEC staff to the ballot proof or printed ballot by reading the template line by line to another person who is comparing what is read to what is on the ballot. Federal and State candidate names should be compared to the “Candidates on Ballot” document, read aloud and spelled. The same procedure should be used for proofing local candidates’ names using candidates’ Declarations’ of Candidacy for comparison.

## **2. Badger Voters**

Badger Voters recently experienced updates to increase usability in customer navigation and answer common questions. The “Get Started” page indicates subcategories that become available when a county and/or municipality field is populated. A reminder is in place to refresh data if changes have been made before generating a request to purchase.

The FAQ section was updated to include additional detail on:

- How is my file transmitted?
- Tips to using Badger Voters.
- What data is available?

Badger Voters experiences a modest increase in activity immediately before and after the general and spring elections.

The following statistics summarize voter data requests as of May 21, 2019.



<b>Fiscal Year</b>	<b>Total Number of Requests</b>	<b>Requested Files Purchased</b>	<b>Percentage of Requests Purchased</b>	<b>Total Revenue</b>
<b>FY2019 to Date</b>	597	454	76%	\$264,845.00
<b>FY2018</b>	706	517	73.2%	\$182,341.00
<b>FY2017</b>	643	368	57%	\$234,537.35
<b>FY2016</b>	789	435	55%	\$235,820.00
<b>FY2015</b>	679	418	61.56%	\$242,801.25
<b>FY2014</b>	371	249	67.12%	\$125,921.25
<b>FY2013</b>	356	259	72.75%	\$254,840.00
<b>FY2012</b>	428	354	78.04%	\$127,835.00

### 3. Election Voting and EDR Postcard Statistical Reporting (formerly WEDCS)

Commission staff continue to work with municipal and county clerks to meet reporting requirements following the 2018 Partisan Primary, Trempealeau County District Attorney Recall Partisan Primary, 2018 General Election, 2019 Spring Primary, 2019 Spring Election and 2019 Special Assembly District 64 Election.

The new process of gathering information for the Election Voting Statistics Report contains significantly more detail than previous processes. Managing and reconciling the additional data proved challenging for some municipalities and required more staff involvement, however the more clerks are working with the new system the easier they seem to be finding it.

There remain a handful of reporting units that have incomplete reports for the reconciliation process which replaced the former EL-190 reporting. As of May 21, 2019, there are 7 reporting units outstanding for the 2018 Partisan Primary, 1 reporting unit outstanding for the Trempealeau County District Attorney Recall Partisan Primary, 11 reporting units outstanding for the 2018 General Election, zero reporting units for the 2019 Spring Primary, and 87 reporting units outstanding for the 2019 Spring Election. The deadline for reconciliation reporting for the 2019 Special Assembly District 64 Election is May 30, 2019.

The Election Day Registration (EDR) Postcard Statistics for all calendar year 2018 elections were due no later than February 4, 2019 and the 2019 Spring Primary was due by May 20, 2019. By statute this report is to be updated monthly until there is a full accounting of all EDR postcards. As of May 21, 2019, there remain a handful of incomplete reports as follows: 26 outstanding for the Partisan Primary, zero for the Trempealeau County District Attorney Recall Partisan Primary, 7 for the General Election, and 7 for the Spring Primary. The deadline for EDR Postcard reporting for the 2019 Spring Election is July 1, 2019 and for the 2019 Special Assembly District 64 Election is July 29, 2019.

### 4. Education/Training/Outreach/Technical Assistance

Following this memorandum as Attachment 1 is a summary of information regarding initial certification and focused election administration training recently conducted by WEC staff. In preparation for the Spring Election, the training team and elections specialists continued to focus on providing information

and guidance about common election practices, such as acceptable forms of proof of residence and photo ID and issuing provisional ballots. Commission staff also reviewed more complex election administration procedures, including counting write-in votes, drawdown procedures and the recount process.

Staff provided continuing and specialized election training through its election administration and WisVote webinar training series, including post-election procedures and a preview of WisVote system upgrades.

## **5. Forms Updates**

In March, WEC staff had the opportunity to discuss form usability with representatives from the Center for Civic Design. Staff came to a consensus that many forms needed review and determined that the voter registration form was the highest priority form update before the 2020 election cycle due to its large use by both clerks and voter outreach organizations. Voter registration forms are also frequently ordered in bulk by municipal and county clerks ahead of election cycle, and WEC staff wanted clerks to have an updated form before ordering new supplies.

WEC staff has performed a legal review of the information required by Wisconsin statute and federal HAVA requirements. WEC staff will be conducting usability tests on the current form to gather data on any issues that may occur while completing the form by voters. Staff will conduct these usability tests throughout June.

After data is gathered on the current form, WEC staff will use the collected data and suggested edits on the current voter registration form to create a prototype of a new voter registration form. All prototypes will be tested to measure for usability and solicit edits from voters, clerks, and voter outreach group members. Once a new form is found to be equally usable by elections officials and the general public, it will be reviewed by the WEC Staff Counsel to ensure all legal requirements are met. The updated form will be presented to the Wisconsin Elections Commission for their approval at the September meeting. If approved, WEC staff will work with local elections officials and voter outreach groups to publicize the updated form.

## **6. Polling Place Accessibility Program**

On April 2, 2019, the WEC supervised and assisted eleven volunteers auditing forty polling places in Barron, Dane, Kenosha, Milwaukee, and Polk counties. These polling places were audited for their accessibility against the ADA standards.

When analyzing the audit survey results and debriefing about the audits with the auditors from the April 2, 2019 election, two trends emerged. One trend involved the actual usage of the universal/accessible voting equipment. The auditors found that either polling places rarely used their universal/accessible voting equipment; or polling places used their universal/accessible voting equipment throughout the day for all voters. Most polling places rarely used their equipment.

The other trend that emerged when viewing the audit survey data relates to accessible signage. Most polling places do not possess ADA required signage indicating the location of van accessible parking. In

many instances, accessible parking was available, but the polling place simply lacked the sign to label it. Some polling places also lacked appropriate signage for an accessible entrance and/or pathway.

WEC staff is in the process of adding the audit survey data to the Access Elections database to then be reviewed further and provided to the evaluated municipalities.

In the middle of April, the WEC placed an order for new tablets to help improve the auditing process moving into 2020. These new tablets will help make polling place audits more efficient by having a longer battery life, an improved camera, numerous accessibility functions, and being lighter weight.

## **7. Voting Equipment**

The attention of the voting equipment team has been primarily focused on ES&S EVS 5.2.4.0 and EVS 5.3.4.0 testing. Voting equipment staff, after initial discussions with representatives from ES&S, scheduled a test campaign for the second week in April. In the weeks leading up to certification testing, staff time was occupied with updating and finalizing the test deck matrix, marking roughly 1,500 ballots to be used in testing, and preparing office space with ancillary staff to assist with testing as necessary. Testing took two weeks. The first week involved ballot marking device and tabulation-equipment-specific testing in the WEC office. In the second week, staff traveled to Brown, Rock, and Marathon counties to test the modeming functionality housed in the DS200 tabulation equipment. A final report on the test campaign for EVS 5.2.4.0 and EVS 5.3.4.0 has been prepared and is included as an agenda item for the June 11, 2019 meeting of the Commission.

During the remainder of 2019, staff expects there to be further voting equipment approval applications to be submitted by ES&S, ClearBallot, and Dominion Voting Systems. Each of these applications will require individual voting equipment test campaigns and will require a moderate dedication of staff time and resources. At the conclusion of each round of testing, a report will be prepared and then presented to the Commission and the issue of approval considered.

## **8. Records Management Task Force**

On April 4<sup>th</sup>, 2019, WEC staff held a kickoff meeting to launch the agency's Records Management Task Force. This group has been tasked with learning all applicable records retention requirements and to oversee the appropriate editing, storage, and disposal of both paper and electronic agency records.

The project timeline, the final projected deadline for which is November 30, 2019, is further divided into three primary, interrelated phases:

- Reviewing agency-specific RDAs (Retention Disposition Authorization) and the General Records Schedules to determine whether any changes to the agency's current RDAs are necessary.
- Transferring existing records to the State Record Center or appropriately disposing of records that are past their retention dates.

- Training staff on sound records management practices and implementing those practices in a sustainable manner on an agency-wide scale.

**9. Voter Outreach Initiatives**

Staff is currently researching a possible working relationship with Inspire U.S., a nonpartisan, 501(c)(3) nonprofit group that focuses on voter registration and civic engagement among high school students. This group works collaboratively with schools and election officials at the local, state, and national levels to implement peer-led programs in which trained student leaders work to register their peers and increase turnout rates in this vital demographic.

Inspire U.S. has implemented these programs in 10 states and, to date, has helped registered over 77,000 high school students to vote. This organization has worked in Wisconsin in a limited capacity and, based on communication with staff, they would be very willing to operate in a more expansive way in future election cycles. In the coming weeks, staff will continue to research the work this organization does by reviewing provided materials and by contacting states in which they currently operate.

**10. 2019 Project Plan**

Staff recently updated the calendar year 2019 project plan to reflect old tasks already completed and new tasks to complete prior to 2020. The updated plan includes 52 ongoing projects in various categories as follows:

<b>Project Type</b>	<b># of Projects</b>	<b>Description</b>
<b>Election Administration</b>	15	Voting equipment, training programs, required documentation and reports, forms revisions, special elections, audits and clerk committees
<b>Legal &amp; Administrative</b>	5	Administrative rules, current litigation, pending legislation, legislative tracking, and redistricting
<b>General &amp; Financial</b>	9	Records retention, complaints, public records requests, required reports, budget
<b>Information Systems &amp; WisVote</b>	23	Election security tasks, WisVote maintenance and upgrades, Badger Book program development, GIS tasks, list maintenance, training, documentation, and accessibility

## **11. Clerk Advisory Committees**

Since the last Commission meeting, staff completed the process of convening three Clerk Advisory Committees to jointly plan, prioritize, and implement future election initiatives. There are currently three committees reviewing election security, communication, and clerk training. While committee input is not binding, staff believes that the clerk perspective will prove invaluable to improving the quality of service this agency provides to local government.

Over fifty county and municipal clerks offered to serve on a committee. Current participation consists of 9 county clerks and 41 municipal clerks from a cross section of large and small population centers from all corners of the state. The largest jurisdictions represented include Milwaukee, Dane, and Fond Du Lac Counties. The smallest jurisdictions participating include 6 municipalities with fewer than 1,000 residents. The committees reflect Wisconsin's population density, with the majority of clerks coming from southeastern Wisconsin. More remote locations are represented by municipal clerks from Burnett, Price, Vilas, and Marinette, counties.

To date, the three committees have held five public meetings to discuss current and future projects. Meetings are primarily conducted by teleconference. Future meetings may be hosted from other locations around the state to encourage more face-to-face discussion. Committees are currently meeting approximately once per month in an effort to maximize 2019 planning time. Staff anticipates that meetings may be less frequent in the future.

## **12. WisVote Upgrade to CRM 365 On Premise**

In 2016, the Wisconsin Election's Commission staff launched WisVote as the voter registration system to replace SVRS. WisVote is currently developed and maintained on Microsoft Dynamics CRM 2015 On Premise. In 2018, the WEC purchased software assurance for 2,000 client access licenses that is set to expire in September 2021. Mainstream support for CRM 2015 will end January 14, 2020. After this time, Microsoft will no longer provide non-security updates or accept design or feature requests. Currently, staff is working with Microsoft to resolve an issue that causes significant delays to users who frequently need to switch between jurisdictions to complete tasks. Staff has asked for suggestions to resolve the issue in CRM 2015 and CRM 365 which the intention to implement the solution as part of the upgrade.

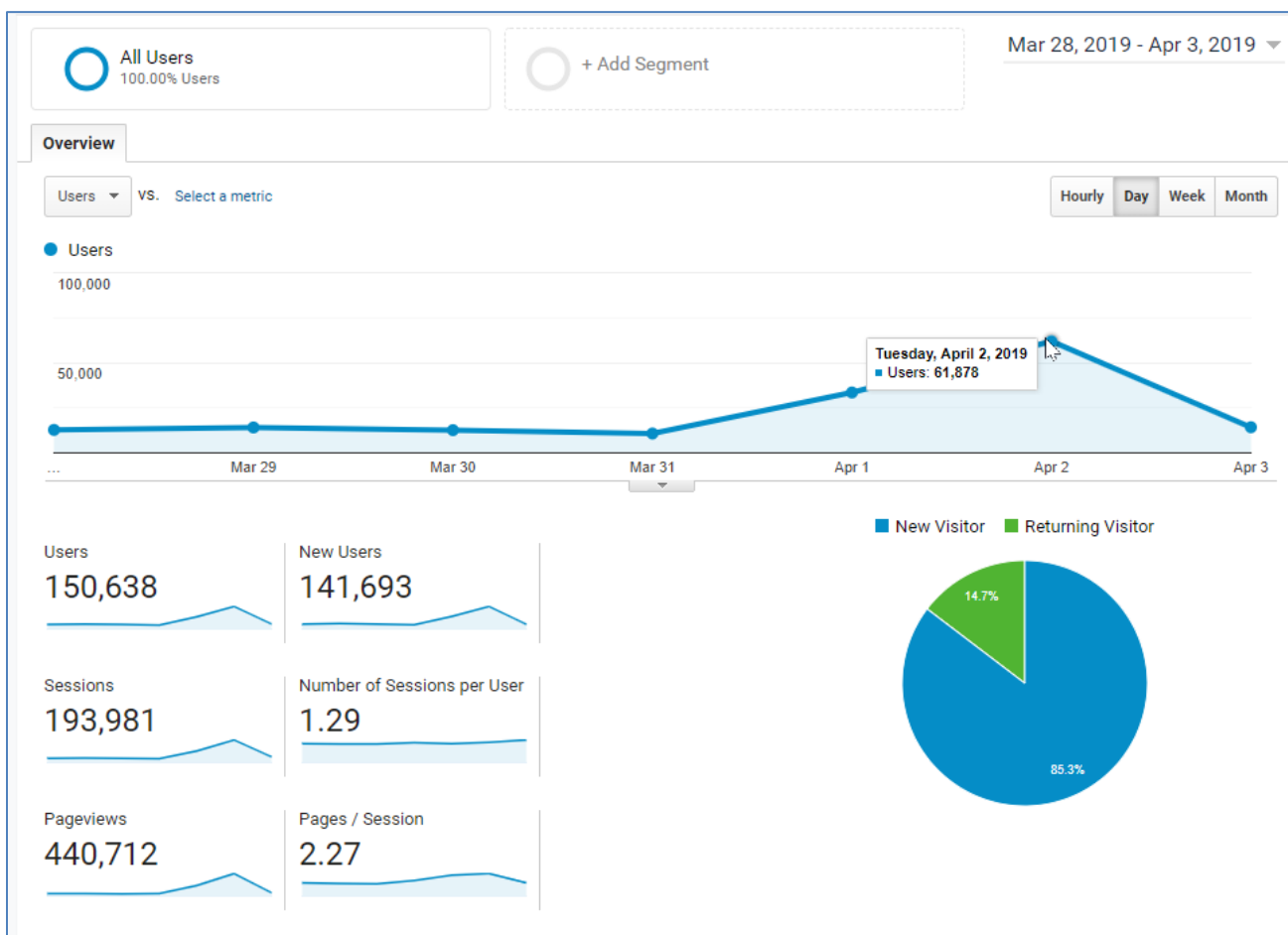
Ahead of the mainstream support end date and 2020 elections, WEC staff plans to upgrade to Microsoft Dynamics 365 On Premise. Development staff will upgrade and resolve anticipated errors relating to JavaScript updates in the development environment by June 14, 2019. WEC staff will then perform functional testing to identify additional errors or issues with the upgraded system by July 29. Staff will then work with municipal and county clerks to perform user acceptance testing during August 2019. While WEC staff is not expecting any major changes to WisVote workflows, the user interface will appear more modern and therefore require updates to existing WisVote training materials. Any major updates as a result of the upgrade will be communicated to WisVote users in September 2019. WEC staff seeks to launch WisVote on Microsoft Dynamics 365 on October 1, 2019.

### 13. MyVote

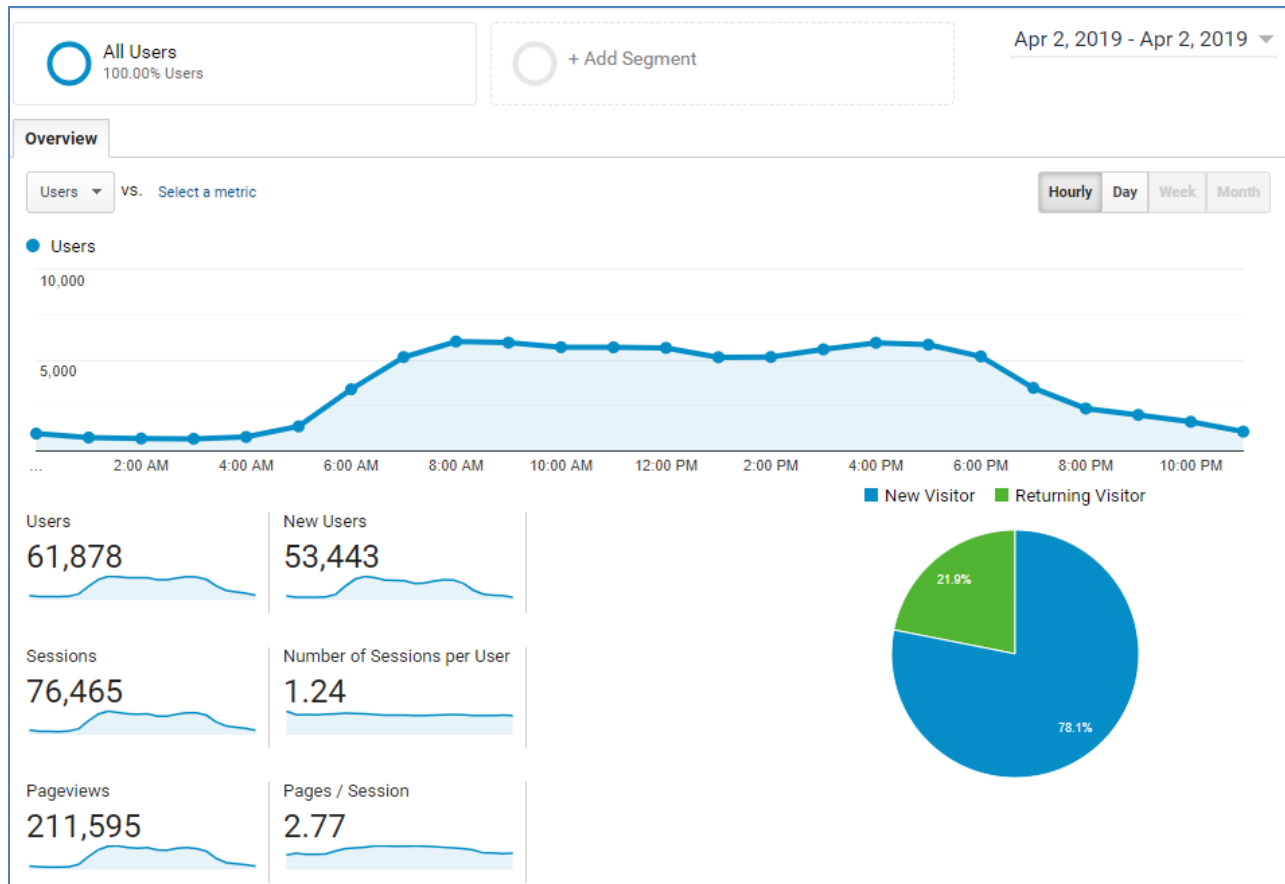
MyVote is the Wisconsin Elections Commission’s main voter information tool. The website allows voters to register online during open registration, start the registration process during closed registration, request an absentee ballot, find their polling places, view sample ballots, track their absentee and provisional ballots, and more. MyVote is a critical tool that both Wisconsin voters and clerks rely on.

As expected, MyVote usage was lower to begin the 2019 election cycle due to there being no statewide primary in February. However, MyVote usage rebounded for the 2019 Spring Election in April. The first graph shows an uptick in usage immediately before and on Election Day, approximately six times a normal non-Election Day; with usage quickly returning to non-Election Day levels after the election. The second graph shows the usage on Election Day, with MyVote maintaining a steady level of activity throughout the day. There were approximately 61,878 users and 211,000 pageviews during Election Day, roughly the same usage during the 2018 Spring Election and 150% of usage during the 2017 Spring Election.

MyVote Election Week Usage:



### MyVote Election Day Usage:



### 14. Canvass Reporting System

For the 2020 Election Cycle counties will continue to use the Canvass Reporting System to transmit official results for state and federal offices to the Commission for certification. WEC staff recommends delaying development of the WisVote elections results module until after the WisVote upgrade to CRM 365 on premises scheduled for summer 2019. Once the CRM 365 upgrade is complete and any resolution to delays have been resolved, WEC staff will resume work on the work on the WisVote election results functionality.

In 2020 WisVote IT staff will conduct usability testing of the election results features. Staff will make use of the clerk advisory committees and WisVote users to make informed decisions on design and process improvements. Clerks will continue to use the Canvass Reporting System to transmit official results to the WEC for all elections in 2020. At the same time, WEC staff will run parallel test elections in the WisVote test environment to thoroughly test the features and performance of the new system. The WisVote election results features are expected to be ready for clerk use in 2021.

## **15. Complaints**

Elections Administration staff and Staff Counsel have continued to process and resolve formal complaints related to the actions of local election officials, as well as informal inquiries submitted by voters and the public. For a complaint against a local election official to be processed in accordance with Wis. Stat. § 5.06, an elector of a jurisdiction must file a written sworn complaint. Since January 1, 2019, the Commission has received 10 Wis. Stat. § 5.06 complaints, 2 of which are still outstanding. In addition, staff frequently handles informal complaints and inquiries submitted through telephone calls or through the agency's website, which are typically resolved promptly through a phone call or email with the complainant and local election officials if necessary. Since January 1, 2019, the agency has received a total of 53 informal complaints through the website. Complaints filed under Wis. Stat. § 5.05 are confidential and decided by the Commission in closed session. Since January 1, 2019, the Commission has received 5 complaints under Wis. Stat. § 5.05, all of which are outstanding and are on the closed session agenda for this meeting for action by the Commission.

## **16. Communications Report**

Between March 1 and May 31, 2019, Public Information Officer Reid Magney engaged in the following activities in furtherance of the Commission's mission:

Media: I logged approximately 110 media and general public phone calls and 130 media email contacts during the period around and following the Spring Election. I arranged several interviews for the Administrator or gave interviews when she was not available. I prepared news releases about upcoming elections, turnout at the Spring Election, confirmation of Meagan Wolfe as WEC Administrator, post-election audits and four-year maintenance.

Online: With the three Linux-based WEC websites successfully migrated to servers hosted by the Division of Enterprise Technology at the beginning of 2019, we are now focusing on improving the usability and accessibility of the websites. I participated in the usability testing training from the Center for Civic Design. The agency has now engaged a web service under an existing state contract to monitor agency websites for accessibility issues and provide tools for correcting them. We are working on making it easier for users to find what they are looking for and removing outdated content.

Legislature: I have assisted the Administrator with the drafting of testimony for several legislative hearings.

Public Records: The Commission received two formal public records requests during the period of this report.

Records Management: As the agency records officer, I have worked with a new Records Management Team on a project to review and either dispose of or archive all paper records.



## **17. Four Year Maintenance Mailing**

In June of 2019, the Commission is required to perform what is commonly referred to as a four-year voter list maintenance. Wis. Stat. §6.50(1) directs that, no later than June 15 following each general election, the Wisconsin Elections Commission shall examine voter registration records for each municipality and identify each elector who has not voted in the previous four years. The Commission is required to mail a “Notice of Suspension of Registration” to the elector. The mailing notifies voters that if they do not respond within 30 days, their registration will be inactivated. The purposed of the mailing is to make sure that every voter’s name and address is correct and current.

In preparation for the 2019 four-year maintenance mailing Commission staff worked with clerks to review data quality to ensure that all municipalities have recorded voter participation and entered new voter registrations. Commission staff updated the postcard design for the 2019 mailing. The design incorporates feedback gained from usability sessions.

On May 7, 2019, Commission staff posted the four-year maintenance preparation checklist. Instructions for processing the mailing and updating voter records was included as part of the WisVote Mid-Year Round-Up webinar. That webinar has been posted to the Commission website for clerks to review at their convenience. Additional communications will be sent prior to the postcards being mailed on June 15<sup>th</sup>.

Of the 3,417,280 active registered voters in WisVote, 113,170 will be sent a four-year maintenance notice in 2019. By comparison, 381,495 voters were sent notices in 2017. Voters will be sent a postcard if they meet the following criteria: (1) registered on or before December 31, 2012, (2) did not vote after December 31, 2014, (3) and were not a military elector.

No later than August 1, 2019 the commission must post the following statistics on its website:

- (a) The total number of notices mailed.
- (b) The number of notices returned as undeliverable.
- (c) The number of notices that were returned requesting continuation of registration.
- (d) The number of notices that were returned requesting cancellation of registration.
- (e) The number of notices returned with an indication that the named elector is deceased.
- (f) The number of notice that were not returned.
- (d) The number of electors who received notices and whose status changed from eligible to ineligible.

## **18. Elections HelpDesk/Customer Service Center**

The Elections Help Desk staff is supporting more than 2,000 active WisVote users, while also answering calls from the public and election officials. Staff is monitoring state enterprise network and data center changes and status, and processing voter verification postcards. Help Desk staff has been serving on and assisting various project teams including ongoing WisVote & MyVote development, ERIC, and E-Poll Book teams. Staff continues to maintain and update Elections Commission, WisVote user and clerk listserv email lists. Voter cancellation notices from other states continue to be processed. Staff is coordinating and assisting with several upgrade projects such as migrating various Commission websites to new platforms, installing and testing CRM 365 on prem for the next generation of WisVote, and

various projects initiated by the Department of Administration (DOA) including troubleshooting and monitoring the migration to AT&T Unified Communication (VoIP) and administering Elections Commission’s Exchange email system.

The Help Desk staff continues to create new clerk user credentials for the WisVote system and the WisVote Learning Center to ensure all users are properly trained in WisVote and WisVote security. They also assist clerks with configuring and installing WisVote on municipal computers. The Help Desk continued to field a wide variety of calls and emails from voters and the public, candidates, political committees, and public officials.

	<u>Elections Help Desk Call Volume</u> (608-261-2028)	<u>Front Desk Call Volume</u> (608-266-8005)	<u>Total Incoming Call Volume</u>
February 2019	698	274	972
March 2019	576	317	893
April 2019	1,034	471	1,505
Up to May 15, 2019	178	n/a	178
<b>Total for Reporting Period</b>	<b>2,486</b>	<b>1,062</b>	<b>3,548</b>

**19. 2019-21 Biennial Budget Status**

On February 28, 2019 Governor Evers delivered his budget address. The Governor’s budget recommendations for the Elections Commission included general purpose revenue (GPR) funds for Automatic Voter Registration (AVR) in the amounts of 24,800 in FY20 and 12,600 in FY21; Voting Requirement Modifications; partial GPR funding for Electronic Registration Information Center (ERIC) requirements in the amounts of 81,300 in FY20 and recommended the additional \$371,300 be funded by segregated federal funds. The Governor also recommended funding for the Four-Year Voter List maintenance mailing to be funded by federal Help America Vote Act funds.

On May 1, 2019 the Joint Committee on Finance (JCF) co-chairs issued a memorandum to its members explaining the review process for the 2019-21 biennial budget and presented a motion to remove certain provisions within the Governor’s 2019-21 budget recommendations from further consideration which included Automatic Voter Registration and Voting Requirement modifications.

On May 14, 2019 the Joint Committee on Finance met in executive session to discuss the Elections Commission budget request. The JCF’s budget recommendation was to fully fund the cost of the ERIC requirements with GPR funds in the amount of \$452,600 for the biennium. The JCF also recommended transferring \$9,700 in FY21 from the Commission’s materials and services appropriation to the general fund for the purpose of offsetting a portion of ERIC expenses. These recommendations will fully fund the agency’s ERIC dues, mailings, and changes to the WisVote system. The recommendations made will now be passed on to the full Assembly and Senate for a vote, which is currently scheduled for June.

Below is a comparison chart of the agency’s biennial budget request, the Governor’s recommendations and the Joint Committee on Finance recommendations.

	<b>2019-21 WEC Request</b>	<b>2019-21 Governor</b>	<b>2019-21 Jt. Finance</b>	<b>2019-21 Difference*</b>
GPR Fund	\$9,403,100	\$9,024,200	\$9,367,800	\$343,600
Positions	31.75	31.75	31.75	0

\*The difference between the Governor's recommendations and the JCF recommendations  
 In both recommendations the funds for the 4-year maintenance in the 2nd year of the  
 budget was not approved.

## 20. Financial Services Activity

- Staff worked with the U.S. Election Assistance Commission (EAC) and WI Department of Administration (DOA) to prepare for and facilitate the close out of federal grants HAVA 251, closed April 9<sup>th</sup>, and HAVA 101, projected to be closed by June 6<sup>th</sup>. Staff has been establishing new funding allocations and creating adjusting entries to finalize the close of those grants in STAR.
- Staff has requested and received from DOA historic WISmart financial data. Staff is using that data to reconcile past Federal Financial Reports for HAVA 101 and HAVA 251 for accurate and complete close out financial reporting.
- Staff has begun drafting the Federal Financial Reports for the close out of HAVA 101 and HAVA 251 (both due December 31, 2019).
- Staff has continued to perform and submit to DOA scheduled month-end close queries, inquiries, and reports. Staff conducted necessary adjusting entries to resolve any found errors.
- Staff has been performing state fiscal year-end close activities for procurement and financial STAR modules and will continue close activities until and following the June 30<sup>th</sup> close.
- Staff has continued to revise WEC's Program Codes, Use Codes, and Task Profiles to streamline the tracking and reporting of all federal and state funds.
- Staff has continued to work with DOA to correct and reverse allocation errors due to erroneous setup of Elections Security leave payroll and fringe benefits.
- Staff completed training on the use of the STAR Finance "Fluid" interface upgrade, rolled out March 25<sup>th</sup>.
- Staff participated in the newly formed Financial Leadership Council's first meeting on May 16<sup>th</sup> at DOA.

## **21. Procurements**

Financial staff has spent a lot of the time this past couple of months on purchasing activities for several large-scale procurements. The following Purchase Orders have been processed since the March 11, 2019 Commission meeting:

- A \$8,544 Purchase Order was written for a temporary services staffer to cover the front-desk duties in the absence of our agency receptionist.
- A \$24,999 Purchase Order was written to conduct usability training for agency staff.
- A \$29,179.68 Purchase Order was written for a Video Conferencing system for the agency.
- A \$16,651.11 Purchase Order was written for three E-Poll books and cases.
- A \$5,000 Purchase Order was written to customize a State of Wisconsin Cyber Security video.
- A \$8,995.52 Purchase Order was written to replace broken staff and conference room chairs.
- A \$4,091.20 Purchase Order was written to reconfigure the IT Contractors workstations.
- A \$9,921.32 Purchase Order was written for new Board Room Conference tables.
- A \$14,655.78 Purchase Order was written for a crypto security device and three years of service maintenance for election security.
- A \$38,238.00 Purchase Order was written for the direct purchase of two Canon color copiers and one Canon black and white copier along with a 4-year maintenance agreement on all copiers to replace existing malfunctioning-copiers that are no longer on contract.
- All referenced purchases were made using mandatory state contracts.

## **22. Developer Contract Renewals**

The agency is required to annually reaffirm the continued appropriateness of renewable 3-year developer contracts previously approved by the Wisconsin Elections Commission.

WEC has an extensive listing of mission critical applications which need to be reengineered and integrated using web-based development tools and techniques. Staff will continue with modernizing and upgrading the statewide voter registration system, now called WisVote. Other applications which will be modernized and integrated into WisVote include the following: Canvass Reporting System, MyVote.wi.gov, and Polling Place Accessibility database (Access Elections). Additional Legislative mandates from the past session require technological enhancements including Online Voter Registration integration with MyVote and WisVote, and data sharing required by the Electronic Registration Information Center (ERIC).

The WEC uses a state technical contract approach to ensure expertise in systems development, applications support and operations to manage the numerous projects ventured through our modernization efforts. This will allow for a common design across systems which enables cross training and the compatibility to provide ongoing support. Required annual support contracts include the following services for FY-2020:

- Data Warehouse Developer III \$208,000
- Technical Architect II \$189,280
- Database Architect III \$140,400
- Database Architect II \$140,400
- Programmer Analyst III \$140,400

### **23. Meetings and Presentations**

WEC staff attended the following events:

March 12-14: Administrator Wolfe attending a Council of State Governments (CSG) Overseas Vote Initiative (OVI) work group meeting. The meeting included a tour of the USS America at the San Diego Naval base to meet with services members and discuss their experience voting during deployment. Discussions included limitation in access to technology and limitations in access to traditional mailing service when stationed on aircraft carriers. During the subsequent OVI workgroup meeting, Administrator Wolfe engaged with other election officials around the country, with staff from the Federal Voting Assistance Program (FVAP), and Voting Assistance Officers from all branches of the military to discuss best practices and solutions to ensuring military members have equal access to voting.

March 15: WEC Security and Training staff conducted an Election Security Tabletop Exercise for Waukesha County municipalities in Waukesha, Wisconsin.

March 29 and 30: Administrator Wolfe attended an Executive Board meeting of the National Association of State Election Directors (NASED) in Washington DC. On March 29<sup>th</sup>, Administrator Wolfe participated in a meeting with nearly 20 Congressional staff to discuss the ongoing election security needs of states. The meeting was very productive and gave Administrator Wolfe an opportunity to advocate for long-term, sustained funding to support security efforts of local election officials. The Board also met on March 30<sup>th</sup> to plan the Summer NASED conference and to discuss ongoing election business such as the upcoming public hearing of the U.S. Election Assistance Commission.

April 10-12: Administrator Wolfe attended the U.S. Election Assistance Commission's Standards Board meeting in Memphis, TN. Administrator Wolfe is the appointed Standards Board Representative for the State of Wisconsin. On April 10, Administrator Wolfe attended and testified at the public hearing on the EAC related to the published draft of the Voluntary Voting Standards and Guidelines (VMSG). During the meeting, Administrator Wolfe also participated in a DHS intel briefing and committee meetings.

April 25: WEC Badger Book Team conducted a Badger Book demonstration at the WMCA District 7 Conference in Wittenberg, Wisconsin.

April 29-May 1: Administrator Wolfe attended the Election Infrastructure- Information Sharing and Analysis Center (EI-ISAC) meeting in Denver, CO. Administrator Wolfe was recently elected to the Executive Board of the EI-ISAC and was invited to attend to be a part of election security panels and an executive board meeting. The meeting was an excellent opportunity to work with other state and federal election security partners to understand available security resources and begin development of implementation. From the State of Wisconsin there were nearly 20 attendees (there were nearly 800 government officials in attendance) including the state Fusion Center, National Guard, county and municipal government officials, and staff from the state Division of Enterprise Technology (DET).

May 9: WEC Security and Training staff conducted an Election Security Tabletop Exercise for Dane County municipalities in Madison, Wisconsin.

May 10: WEC Security and Training staff conducted an Election Security Tabletop Exercise for a variety of municipal clerks at the WMCA Northern Region Conference in Eau Claire, WI.

#### **24. Delegation of Authority**

The Administrator of the State of Wisconsin Elections Commission used the delegated authority provided by the Commission to authorize the following:

- Purchases and expenditures as listed above.



# Wisconsin Elections Commission

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**DATE:** For the June 11, 2019 Commission Meeting

**TO:** Members, Wisconsin Elections Commission

**FROM:** Meagan Wolfe  
Administrator

Richard Rydecki  
Assistant Administrator

**SUBJECT: Potential Voting Equipment Pilot in Wisconsin**

The State of Wisconsin has been approached by representatives of the Defending Democracy Program at Microsoft with an opportunity to pilot their ElectionGuard software development kit. The ElectionGuard software can be used to create a voting system that offers the ability to incorporate voter and public verification options designed to increase confidence in the voting and vote tabulation processes used to conduct elections. The software package is open source, meaning the code is open to public inspection, and was designed with the intent of “making voting secure, more accessible and more efficient” through the incorporation of advanced encryption tools that allow voters, candidates and other interested parties to track the integrity and accuracy of vote totals through multiple public-facing tools. In addition, the system is designed to increase accessibility and understanding of ballot instructions, and the voting process as a whole, using voter interfaces that resemble common applications used in other aspects of daily life.

A potential pilot of ElectionGuard in Wisconsin could take place during the 2020 election cycle and would require both Microsoft and the Commission to fulfill certain responsibilities to ensure a successful outcome. Staff has worked with Microsoft to outline essential aspects of a pilot and determine the entity responsible for each task to determine the feasibility of incorporating this project into our current project plan and the administration of existing statutory duties. A potential project plan could involve the following breakdown of responsibilities between Microsoft and the Commission:

Microsoft supplies the pilot voting system for any potential Wisconsin pilot. Components of the system include:

- Off the shelf Windows tablets equipped with Windows 10 IoT Enterprise
- Open-source lockdown script implementing recommended security practices
- The ElectionGuard voting application:
  - An open source Ballot Marking Device kiosk app

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Dean Knudson, chair | Julie M. Glancey | Ann S. Jacobs | Jodi Jensen | Mark L. Thomsen

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Administrator  
Meagan Wolfe

- Accessibility support via an integrated Xbox Adaptive Controller, which includes the ability to plug in additional adaptive devices
- the BMD is controllable either via the tablet touchscreen or XAC, and
- A COTS printer that generates a ballot summarizing voter choices and a tracking ID voters can use to ensure their vote was included in the final tally
- A custom enclosure for both the tablet and printer
- The ElectionGuard SDK and software tools and support for key generation, vote encryption, and tallying
- Hosting the results and downloadable tallies, including a website for voters to check their tracking IDs

The Wisconsin Elections Commission would be responsible for the following aspects of the pilot:

- **Advise & Consent:** Microsoft would be looking to the Commission primarily to provide consent for the pilot and to serve in an advisory capacity. The ElectionGuard pilot team would look to the State to help identify and onboard appropriate local election officials/locations for the pilot, as well as providing guidance on rules and regulations that should be considered in this effort.
- **Election Definitions:** As the reference implementation already includes the technical integration with the ElectionGuard SDK, the technical resources required by the Commission should be minimal. The key issue would be ensuring the appropriate ballot styles, contests and candidates are transferred into the ElectionGuard system and that the system could be programmed to accommodate Wisconsin election laws.

In addition, the potential exists for the pilot to include assistance from various third-party groups, such as academics, to engage in potential aspects of the pilot such as voter behavior surveys and the construction of public-facing tools that can be used to verify vote totals and tabulation accuracy.

The ElectionGuard software includes potential advances in voting technology that increase election security and make voting more accessible. The potential pilot of this system represents an opportunity for staff to gain experience working with a voting system designed to increase transparency in how votes are tabulated and tracked throughout the election process. It also provides additional experience working with software-based voting systems that interact with off-the-shelf hardware components that are becoming increasingly prevalent in the voting system landscape.

**Recommended Motion:**

Authorize staff to continue to research this pilot project with Microsoft and provide an updated status report on this potential project at the September 24, 2019 Commission meeting.