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## MEMORANDUM

**DATE:** For the June 20, 2017 Commission Meeting

**TO:** Members, Wisconsin Elections Commission

**FROM:** Michael Haas  
Administrator

Richard Rydecki  
Elections Specialist

**SUBJECT:** 2016 Post-Election Audit of Electronic Voting Equipment Report

### Introduction

Wis. Stat. § 7.08(6) is the state embodiment of § 301(a)(5) of the Help America Vote Act of 2002 (HAVA). Wis. Stat. § 7.08(6), requires the Wisconsin Elections Commission (“WEC”) to audit each voting system that is used in this state following each General Election:

**(6) Enforcement of federal voting system standards.** Following each general election, audit the performance of each voting system used in this state to determine the error rate of the system in counting ballots that are validly cast by electors. If the error rate exceeds the rate permitted under standards of the federal election commission in effect on October 29, 2002, the commission shall take remedial action and order remedial action to be taken by affected counties and municipalities to ensure compliance with the standards.<sup>1</sup> Each county and municipality shall comply with any order received under this subsection.

This law was passed in 2005 and became effective January 1, 2006. Following the November 2006 general election, the first post-election audit was conducted in the State of Wisconsin. Wisconsin has required 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” since April 2004. Wis. Stat. § 5.91(18).

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<sup>1</sup> The current federal standard is 1 in 500,000 ballots. Accordingly, auditing teams must reconcile the Voter Verified Paper Record with ballots or records tabulated and recorded by equipment and eliminate any potential non-tabulation related sources of error including printer malfunctions, voter generated ballot marking errors, poll worker errors, or chief inspector errors.

The State of Wisconsin specifically distinguishes the post-election audit requirement as separate from the required pre-election tests of electronic voting systems. The pre-election test of electronic voting system, defined by Wis. Stat. §5.84, uses a pre-determined set of ballots to ensure that the voting system is properly programmed prior to Election Day. The post-election audit, on the other hand, is designed to assess how the electronic voting system performed on Election Day using a review of the actual votes cast by electors to verify the accuracy of programming and tabulation.

The Wisconsin Election Commission established detailed procedures for meeting the post-election audit requirement. Post-Election audits fulfill many goals including:

- Creating an appropriate level of public confidence in the results of an election;
- Deterring fraud against the voting system;
- Detecting and investigating large-scale, systemic errors;
- Ensuring that previous certified voting equipment systems are performing up to standards required by continued certification;
- Providing feedback that will allow jurisdictions to improve voting technology and election administration for future elections;
- Confirming, to a high level of confidence, that a complete manual recount would not change the outcome of a race.

The effectiveness of the audit is enhanced by several features, including:

- Use of a completely transparent and random selection process for choosing reporting units to be audited;
- Ensuring a minimum number of reporting units for each model of equipment is represented in the audited reporting units;
- Use of counting methods that account for overvotes, undervotes, blank ballots, and spoiled ballots;
- Auditing of all ballots tabulated on Election Day including absentee ballots.

Since 2006, the state agency that oversees elections has conducted audits on voting equipment within the state. In 2008, staff of the former Government Accountability Board (“G.A.B.” or “Board”) reconfigured the audit program to address the unsustainably high personnel and financial expenses. Board staff began asking municipal clerks to conduct audits at the municipal and county level, and mail audit materials to the Board offices for staff to complete, instead of staff completing the audits onsite. In 2010, the Board continued requiring municipalities to conduct audits at the municipal level with assistance from G.A.B. staff. In 2012, Board staff again reformed the audit program, including a decision to double the amount of reporting units selected for participation. This change meant auditing

over one hundred (100) reporting units. Municipalities continued to be required to perform voting equipment audits at the municipal level, with assistance from G.A.B. staff.

The same procedures and protocol were applied to the 2014 audit process. Municipalities were again required to perform audits at the municipal level and many municipalities worked with their respective county clerks to conduct the required voting equipment audits. G.A.B. staff provided assistance to municipalities concerning audit planning, auditing procedures, and suggested ideas and methods for resolving potential discrepancies. Staff also reviewed initial audit results to ensure audits were conducted in an appropriate manner. In limited circumstances, staff conducted an additional audit of the ballots to verify the Election Day results against the hand count audit results.

## **Overview of Audit Procedures**

### **Reporting Unit Selection Process**

The Wisconsin Elections Commission randomly selects a pre-determined number of reporting units across Wisconsin for audits, including a minimum of five (5) reporting units for each voting system used in Wisconsin. For the 2016 audit selection process, a selection limit of two reporting units per municipality was proposed by WEC staff and approved by the Commission during its October 14, 2016 meeting. The audits are conducted in accordance with the procedures set forth below. If fewer than five (5) reporting units for any voting system are selected through the random selection process, then additional reporting units are randomly selected for the voting system until five reporting units per voting system have been selected. Any reporting unit selected for audit that is subject to a recount is replaced by another reporting unit selected at random by the WEC. For good cause, the WEC may identify other reporting units to be audited.

In addition to audits conducted on the municipal level, the WEC may choose to audit a selected number of reporting units at the state level. The total number of reporting units selected during this process may not exceed one percent (1%) of the reporting units in the state. The reporting units included in the audit will be selected at random by the WEC. In the event that the WEC chooses to conduct audits, staff will identify different reporting units than those identified for audit on the municipal level.

The procedures outlined above were employed for the original selection of reporting units for the 2016 post-election voting equipment audit. The Commission later determined that reporting units selected for the audit whose ballots were hand-counted during the statewide recount for the Office of President would no longer be required to conduct the audit. Reporting units whose ballots were recounted using optical scan tabulators would still be subject to the post-election voting equipment audit. This decision significantly reduced the number of audits that were conducted following the 2016 Presidential Election.

### **Pre-Audit Preparations**

The audit must be open to the public, and the time and location of the audit must be posted at least 48 hours prior to the audit. Members of the public can observe the audit proceedings, but may not interfere with the orderly conducting of the audit. The audit must be conducted no later than two (2) weeks after the Wisconsin Elections Commission certifies the election results.

Upon notification by the Wisconsin Elections Commission that a reporting unit in their municipality was selected for audit, the municipal clerk shall make arrangements with the county clerk and the county board of canvassers to preserve and retain the election materials including voter lists, the Inspectors' Statement (EL-104), Tally Sheets (EL-105), reports printed or generated by the voting system, ballots and any other required materials that will be used during the audit. All materials subject to audit must be retained in a secure location by either the municipal or county clerk.

Upon agreement by a municipality and county, the county clerk or county board of canvassers may perform the audit of the selected reporting unit(s) in lieu of the municipality. In this instance, the county would be entitled to any reimbursement provided by the Wisconsin Elections Commission.

### General Audit Procedures

1. The municipality shall acknowledge receipt of its selection for the post-election voting system audit and confirm with the WEC the following information for each reporting unit selected:
  - a. Voting System Type
  - b. Voting Equipment Model
  - c. Accessible Voting Equipment Model
2. Four (4) contests shall be audited, including the top contest on the ballot, the presidential or gubernatorial contest. The other audited contests shall be selected randomly by WEC staff from the other state-level contests that appear on the ballot.
3. The clerk shall publicly post notice of the time and location for the voting system audit at least 48 hours prior to the scheduled audit. Clerks must notify the WEC of the time and location of the audit by sending an email to [wecaudits@wi.gov](mailto:wecaudits@wi.gov).
4. A minimum of two individuals shall participate in the audit. Votes shall be tallied by hand for the contests included in the audit. For some voting systems, this will require counting the votes listed on the voter-verified paper audit trail generated by the voting system on Election Day. At least two auditors shall each determine an independent total for each selected contest. These totals shall then be compared to each other. If the auditors' totals agree, the totals are then compared to the results generated by the voting system. Any discrepancies should be recorded and explained in the minutes of the audit.
5. If any offices contain an overvote, no vote is counted for that office, and it is considered an undervote.
6. Auditors should only count votes as the equipment would have counted them.

Example: A voter circled candidate name Jane Doe on an optical scan ballot where they should have filled in the oval next to the candidate name. No vote for this office should be counted as the voting equipment would not have counted a vote cast for a candidate in this manner.

7. In some cases, it may not be clear exactly how the ballot would have been counted by the voting equipment. Auditors should document in the minutes any ballots where it is unclear how the voting system would count the ballot. The auditors should include in the minutes how they counted the ballot as well as all reasonable alternatives on how the machine may have counted the ballot.

Example: Ballot 93, voter marked both Jane Doe and John Smith and attempted to erase the mark for John Smith. We counted it as a vote for Jane Doe, but the machine may have read this as an overvote in this contest. This may result in our tally having one more vote for Jane Doe and one less undervote in this contest.

8. The audit results should be compared to the results report from the voting equipment and an error rate should be determined. It may be possible that the auditors' totals do not match the voting equipment results report, but the auditors should be able to reasonably explain any difference in the totals by reference to specific ballots.

### Recommended Audit Procedures

#### *Overview*

1. Two people review each ballot.
2. Auditors should rotate the stacks between them – i.e Person A works on Stack 1-100 while Person B works on Stack 101-200, etc...then they switch. Person A and Person B will each individually go through all the ballots.
3. Keeping the stacks in order allows the auditors to narrow down and locate where there are discrepancies between the two independent counts instead of needing to recount all the ballots over and over again.

#### *Set-Up*

1. Count out ballots into sets of 100.
2. Label stacks (1-100, 101-200, 201-300, etc.)

#### *Each Auditor Individually*

1. Tally contests from ballots that have been separated into groups of 20 – the goal is to be able to narrow discrepancies between individual tallies down to the smaller groups of 20.
  - a. Record the number of votes for each candidate on the tally sheet under the appropriate column for the group of ballots you are working on.
  - b. List the total votes for each office by counting down the column for the stack of 20 you are working on. Be sure to include any scattering or undervotes in your total. The total for each group of ballots should always be equal to the total number of ballots in the group (i.e. a group of 20 ballots should have a total of 20 votes,

scattering and undervotes, and a group of 17 ballots would have 17 total votes, scattering and undervotes).

2. Keep separated in subgroups of 20 while tallying – it is helpful to keep the group of 100 in one stack but to alternate the directions of the subgroups of 20 ballots.
3. Add subtotals after each stack of 100 ballots is complete and note that number in the ‘ST’ column of the Tally section.
4. Complete the ‘Totals’ section of the tally sheet by listing the hand-count subtotals in the ‘Audit’ column, the totals from the voting equipment results tape in the ‘EVM’ column and noting any difference between those totals in the ‘Variance’ column.
5. Repeat 1-4 in sets of 100 until all ballots are counted.

#### *Auditors Jointly*

1. Compare individual tallies for each contest audited.
  - a. Circle any discrepancies between the two tallies.
  - b. If tallies do not match, recount the sub-group of 20 to determine which tally is correct. You should use a new tally sheet labeled “Recount [insert Stack Number/Subgroup]”.
2. After any discrepancies are reconciled, add the stack totals together to determine the total vote in each contest audited.
3. Compare to the electronic voting machine (EVM) total.
  - a. If the totals match, note that they match on the reporting form.
  - b. If the hand tally and voting equipment tally do not match for a contest, the auditors should review the minutes for ballots that were ambiguously marked that could explain the discrepancy. If the discrepancy can be reasonably explained by specific reference to these ballots, record that explanation on the reporting form.
  - c. If the minutes do not provide a reasonable explanation for the discrepancy, calculate the error rate and note the actual difference in votes and the error rate on the reporting form.

#### Post-Audit Procedures

Each municipality conducting an audit must submit the designated reporting forms and supporting documents from the audit, including tally sheets, to WEC staff to indicate the audit was completed and describe any discrepancies that were found. Clerks should email these findings to [wecaudits@wi.gov](mailto:wecaudits@wi.gov).

WEC staff may, at its sole discretion, request that the municipality submit all audit materials, including the source documents (ballots, poll lists, etc.) to the WEC for further review. In such a case, the WEC will reimburse the municipality for the associated postage/shipping costs.

In the event that a discrepancy between the machine tally and the paper record tally cannot be reasonably explained, WEC staff will request that the voting equipment manufacturer investigate and explain the reasons for any differences between the machine tally and the paper record tally. Should the vendor fail to provide a sufficient written explanation, including recommendations for preventing future occurrences, within 30 days of notification, WEC staff will suspend approval of the affected voting system in Wisconsin. This suspension will be implemented immediately, pending an appeal by the vendor to the Commission, which must be filed within 30 days.

Based upon the results of the audit, the Wisconsin Elections Commission may, at its sole discretion, choose to re-test the voting system per EL Chapter 7. Such test would be a condition of continuing approval of said voting system.

### Municipal Reimbursement

The Wisconsin Elections Commission will reimburse municipalities for actual costs incurred, up to \$300 per reporting unit, for conducting each audit. The Wisconsin Elections Commission will not reimburse personnel costs at a rate exceeding \$10 per hour. Each municipality seeking reimbursement shall submit an itemized request that includes the names of the auditors, the pay rate at which they were compensated, the total sum requested for reimbursement and information on where the WEC can transmit any approved reimbursement amount.

### Voting Equipment Descriptions

#### Accessible Equipment

##### 1. *Sequoia Edge*

The Board approved Sequoia's AVC-Edge with VeriVote Printer DRE system, version 5.024 on March 22, 2006. This system was approved under NASED # N-1-07-22-22-002. Most municipalities who use the AVC-Edge utilize them to meet accessibility requirements and use another system, usually traditional paper or optical scan, to fulfill the majority of voting needs.

##### 2. *ES&S iVotronic*

The Board approved ES&S's iVotronic DRE with Real Time Audit Log, version 9.1.4.0 on April 26, 2006. This system was approved under NASED # N-2-02-22-22-005. Most municipalities that use the iVotronic utilize it to meet accessibility requirements and use another system, usually traditional paper or optical scan, to fulfill the majority of their voting needs.

##### 3. *AccuVote TSX*

The Board first approved Diebold's AccuVote TSX DRE Touch Screen and AccuView Printer Module, version 4.6.3 on March 22, 2006. This system was approved under NASED # N-1-06-22-22-001. Most municipalities that use the AccuVote TSX utilize it to meet accessibility requirements and use another system, usually traditional paper or optical scan, to fulfill the majority of their voting needs.

#### 4. Populex

Populex Digital Paper Ballot Voting System, version was approved by the State Elections Board at the May 17, 2006 meeting.

#### Optical Scan Tabulators

##### 1. *Dominion ImageCast Evolution*

ImageCast Evolution version 410A was originally approved for use in Wisconsin by the Board on June 18, 2015.

##### 2. *ES&S M100*

System assigned NASED # N-2-02-22-22-005. This equipment was approved by the State Elections Board April 26, 2006.

##### 3. *ES&S DS200*

DS200 digital scanner, version 1.6.1.0, was originally approved by the Board on August 28, 2012.

##### 4. *Optech Insight*

Formerly a Sequoia Product that has been acquired by Dominion Voting, the Optech Insight optical scan ballot reader, version. APXK2.10/HPX K1.42 was assigned NASED system ID # N-1-07-22-22-002. The State Elections Board approved this equipment on March 22, 2006.

##### 5. *Optech Eagle*

The Optech IIP Eagle originally made by Business Records Corporation and later (as a result of merger and an antitrust decision, by both Sequoia Voting Systems and by Election Systems and Software). It is has been in use in Wisconsin for over 20 years in some jurisdictions.

##### 6. *Diebold/Premier-AccuVote-OS*

This was formerly a Diebold Elections System Product that has been acquired by Dominion Voting. The AccuVote-OS (model D) Optical Scan, version 1.96.6, was approved by the State along with a series of security recommendations, at the March 22, 2006 meeting. The system was assigned NASED system ID # N-1-06-22-22-001.

## **2016 Voting Equipment Audit Summary**

After the 2016 General Election WEC staff originally selected a total of one hundred and seven (107) reporting units across Wisconsin to conduct the 2016 post-election voting equipment audit. The original 107 reporting units represent ninety-three (93) municipalities throughout the state. The list included a minimum of five (5) reporting units for each piece of accessible voting equipment and tabulation equipment (Optical Scan) approved for use in Wisconsin. If fewer than five (5) reporting units for any voting system were selected through the random selection process, additional reporting units were selected until five (5) reporting units per voting system were identified. The only exception was the accessible voting equipment, Populex, which is used in only two (2) municipalities, encompassing three (3) wards. Notification of selection for audit was sent to both municipal and county clerks for impacted jurisdictions.

At the December 14, 2016 meeting of the Wisconsin Elections Commission, the Commission decided to limit the scope of audit participants in the wake of the statewide recount for the Office of President. The Commission determined that any reporting unit originally selected for the post-election voting equipment audit whose ballots were hand counted during the recount would no longer be required to be audited. Reporting units where ballots were machine counted during the recount would still be subject to audit. Optical scan voting equipment was used to recount ballots in 32 reporting units selected for audit and those ballots, in addition to ballots from nine reporting units where audits were completed before the statewide recount was ordered, constitute the sample included in this report. A full list of reporting units where audits were conducted can be found in Appendix A.

### **Accessible Voting Equipment Audit Results Summary**

<b>Accessible Voting Equipment</b>	<b>Number Originally Selected</b>	<b>Audits Conducted</b>
Sequoia Edge	29	9
AccuVote-TSX	5	0
iVotronic	5	0
Populex	2	0

All voting equipment audits of accessible voting equipment were completed by municipal or county clerks. The audit reports indicate the machine tallying function on all audited accessible devices tabulated correctly, with no identifiable bugs, errors, or failures occurring between the individual cast vote record and the total tabulated vote record. The only noted issue arose with auditors not being able to verify several ballots cast on the Sequoia Edge due to paper jams of the Voter Verified Paper Audit Trail (VVPAT) on Election Day. Until cleared, the paper jams may not allow for the recording of votes by the VVPAT.

There are four approved accessible voting systems that record and tabulate votes that are in use in Wisconsin, but only one system, the Sequoia Edge, was ultimately subject to audit. The audit requirements for reporting units using the three other systems were waived after those jurisdictions conducted a hand count during the statewide recount. Of the 44 reporting units whose accessible voting equipment was originally selected for audit, only 9 were required to complete audits of that equipment.

Tabulation Voting Equipment (Optical Scan) Results Summary

<b>Optical Scan Equipment</b>	<b>Number Originally Selected</b>	<b>Audits Conducted</b>
Sequoia Insight	7	3
ES&S M100	11	4
Optech Eagle	5	2
AccuVote-OS	5	0
ES&S DS200	45	27
Dominion ICE	12	2

All voting equipment audits of tabulation equipment were completed by municipal or county clerks. WEC staff had to perform one hand count for a municipality after both the municipality and county found discrepancies between the audit totals and Election Day results. The individual audits indicate the tabulation voting equipment performed up to certification standards and accurately recorded and tabulated votes. Minor discrepancies were reconciled between the audit hand counts totals and the election results produced by the voting equipment from Election Day.

The audit process was complicated for some municipalities which conducted their audits after the statewide recount for Office of the President. Several municipalities reported that original materials, including ballots, were misplaced upon completion of the recount and not available for verification during the audit process. In addition, several municipalities indicated that the original Election Day ballot pool was different after the recount due to decisions by the Board of Canvassers to remove ballots from the pool (i.e. draw down) or reconsider original decisions to reject ballots made by election officials at the polling place.

Several pieces of tabulation equipment approved for use in Wisconsin have specifications for which type of ballot marking devices are to be used in order for voting marks to be detectable by the equipment. Multiple instances were identified where voters used improper marking devices whose marks were not readable by specific voting equipment. The equipment would generally not count votes on these ballots as they were treated as blank ballots with undervoted contests.

The results of the audit identified one voting system in particular where this issue was especially problematic. The Optech Eagle is an optical scan tabulator that has been in use in Wisconsin for over twenty years. The system will only read carbon-based marks made by voters using marking devices such as vendor-supplied marking pens or no. 2 pencils. This limitation has the potential to disproportionately impact absentee ballots marked at home and returned by mail. Ballots voted at a polling place and at an in-person absentee voting site are more likely to be marked with an appropriate marking device. By-mail absentee voters do not have access to marking devices supplied by the vendor and are often reluctant to mark a ballot using a utensil, such as a no. 2 pencil, whose mark can be erased.

The Village of Hortonville in Outagamie County was unable to reconcile its audit results with the results produced by the Optech Eagle on Election Day. The initial audit was conducted by the municipality and the hand count found multiple discrepancies between votes for ballot candidates and the number of

undervotes identified by the voting equipment. For example, Election Day vote totals for Office of the President indicated 14 more undervotes than were tallied during the post-election audit process. The audit identified more votes for ballot candidates and write-in candidates than were counted by the equipment on Election Day.

After the conclusion of the audit conducted by election officials in the Village of Hortonville, WEC staff requested that an additional audit be conducted using these ballots and the Outagamie County Clerk, Lori O'Bright, agreed to conduct the audit on behalf of the municipality. The results of the second audit were similar to the audit conducted by the municipality in that fewer undervotes were identified during the audit than on Election Day and more votes for ballot and write-in candidates were tallied. All of the ballots from this reporting unit, along with other supporting documents and election materials, were sent to WEC staff so that a third verification could be completed. WEC staff was also not able to reconcile the audit results with the Election Day totals. Staff hand counted all ballots and attempted to identify a subset of ballots that may not have been tallied properly by the voting equipment due to the suspected use of improper marking devices. This exercise did not produce a result that allowed staff to understand how the Optech Eagle treated these ballots with confidence.

The analysis of the performance of the Optech Eagle identified a significant limitation of the equipment, but the Optech Eagle performed as expected during the 2016 Presidential Election. Election officials should have been instructed to review absentee ballots returned by mail for questionable marks before processing those ballots on Election Day. In response to this issue, and similar issues identified during the statewide recount for the Office of President, staff issued recommended guidance to all jurisdictions using Eagles that all absentee ballots returned by mail should be remade before processing or tallied by hand. This guidance was transmitted directly to local election officials and posted to the agency website here: [Guidance on Processing Absentee Ballots using the Optech Eagle](#). Staff intends to consult further with the limited number of municipalities still using the Optech Eagle regarding its performance and report back to the Commission at a future meeting.

Discrepancies identified during audits in other municipalities involved the manner in which the voter marked their ballot. In several instances, the equipment performed better than expected and was able to read ballots, despite voters marking ballots using x's or check marks rather than filling in ovals as instructed. These scenarios created difficulty in reconciling vote totals as local election officials who conducted the audits were left to speculate as to how the equipment treated an improperly marked ballot. Municipalities were able to narrow down vote totals and identify a reasonable range of ballots responsible for the vote discrepancies in each circumstance.

Many of the initial reported discrepancies occurred because voter intent was taken into account when hand counting ballots. The instructions provided to local election officials clearly state that the purpose of this process is to verify the performance of the voting equipment, not to determine the voter's intent as to ballots which the equipment cannot read. For example, if a voter circled the name of a candidate on their ballot, the voting equipment would not record a vote for that candidate. A visual inspection of the ballot could allow the election official to determine voter intent, but voting equipment cannot be expected to recognize improper marks, so no vote for that candidate should be tallied during the audit process. In addition, despite clear audit instructions, some clerks were unaware that the hand count audit totals must reconcile with the election night machine results, with no variance. These procedural errors lead to additional votes for candidates with a corresponding decrease in the number of undervotes for a contest, or swapping a vote for one candidate for another candidate in the same contest. In each circumstance additional verification was done to either locate a potential problem ballot or to clarify that

the vote total discrepancies were due to human error and were not caused by voting equipment malfunction.

### Audit Program Costs

For 2016, the Commission continues to reimburse municipalities \$300 per reporting unit for costs associated with conducting the audit. Appropriate documentation detailing actual costs incurred by the party conducting the audit is required for municipalities or counties to receive this reimbursement. For the 2016 voting equipment audit WEC staff has reimbursed \$6,457.53 to municipalities as of June 9, 2017. WEC also reimbursed the Outagamie County Clerk's office \$96.62 for costs related to shipping the Village of Hortonville ballots. In addition, those ballots had to be returned to the county for storage and records retention purposes at a cost of \$10.80 to the WEC. The total amount reimbursed to local election officials for the 2016 audit is \$6,564.95.

Several municipalities reported audit costs that exceeded the limit of \$300 per reporting unit. Seven municipalities requested additional reimbursement that totaled \$761.50. At its December 14, 2016 meeting, Commission members directed staff to track any reimbursement costs in excess of the limit and report any additional costs to the Commission at the conclusion of the audit process.

### Conclusion

Both the accessible voting equipment and tabulation equipment used and audited for the 2016 Presidential Election recorded and tabulated votes as expected and according to certification standards. The audit results indicated there were no identifiable bugs, errors, or failures of the tabulation voting equipment and discrepancies identified during the audit were the result of human error when conducting the audit. The issues with the Optech Eagle identified in the Village of Hortonville were due to the limitations of a legacy voting system and, despite these limitations, the equipment functioned as designed. The inappropriate use of marking devices that are not compatible with the system and election official error in not properly identifying and remaking potentially problematic ballots were the cause of the discrepancies identified during the audit.

In addition to the reporting units that were subject to audits, the statewide recount for the Office of the President provided an additional check on the voting equipment deployed during the 2016 Presidential Election. During the recount, fifty-one counties hand counted all ballots, with an additional twelve counties hand counting, at least, some portion of the ballots cast. This exercise also did not identify any issues with how voting equipment recorded and tabulated votes in Wisconsin during the 2016 Presidential Election.

**Recommended Motion:** Staff recommends that the Commission accept this report of the 2016 Voting Equipment Audit.

## Appendix A

Table of 2016 Municipalities Audited

County	Municipality	Optical Scan	Accessible System
BARRON	TOWN OF ARLAND	None	AVC Edge
BROWN	CITY OF GREEN BAY - Ward 44	ES&S DS200	ES&S Automark
BROWN	CITY OF GREEN BAY - Ward 31	ES&S DS200	ES&S Automark
BROWN	TOWN OF SCOTT	ES&S DS200	ES&S Automark
DOOR	VILLAGE OF EGG HARBOR	Dominion ImageCast Evolution	Dominion ImageCast Evolution
DUNN	TOWN OF TAINTER	Sequoia Insight	AVC Edge
EAU CLAIRE	CITY OF EAU CLAIRE	Optech- Eagle	AVC Edge
GREEN	TOWN OF JEFFERSON	Dominion ImageCast Evolution	Dominion ImageCast Evolution
MANITOWOC	TOWN OF MEEME	ES&S M100	ES&S Automark
MARATHON	TOWN OF WIEN	ES&S DS200	ES&S Automark
MILWAUKEE	CITY OF FRANKLIN - Ward 14	ES&S DS200	ES&S Automark
MILWAUKEE	CITY OF FRANKLIN - Ward 22	ES&S DS200	ES&S Automark
MILWAUKEE	CITY OF GLENDALE	ES&S DS200	ES&S Automark
MILWAUKEE	CITY OF GREENFIELD	ES&S DS200	ES&S Automark
MILWAUKEE	CITY OF MILWAUKEE - Ward 164	ES&S DS200	ES&S Automark
MILWAUKEE	CITY OF MILWAUKEE - Ward 68	ES&S DS200	ES&S Automark
MILWAUKEE	CITY OF WAUWATOSA - Ward 14	ES&S DS200	ES&S Automark
MILWAUKEE	CITY OF WAUWATOSA - Ward 22	ES&S DS200	ES&S Automark
MILWAUKEE	CITY OF WEST ALLIS - Ward 20	ES&S DS200	ES&S Automark
MILWAUKEE	CITY OF WEST ALLIS - Ward 1	ES&S DS200	ES&S Automark
MILWAUKEE	VILLAGE OF BROWN DEER	ES&S DS200	ES&S Automark
MILWAUKEE	VILLAGE OF WHITEFISH BAY	ES&S DS200	ES&S Automark
MILWAUKEE	VILLAGE OF WHITEFISH BAY	ES&S DS200	ES&S Automark
OUTAGAMIE	CITY OF APPLETON - Ward 4	ES&S M100	ES&S Automark
OUTAGAMIE	CITY OF APPLETON - Ward 37	ES&S M100	ES&S Automark
OUTAGAMIE	TOWN OF GRAND CHUTE	Sequoia Insight	AVC Edge
OUTAGAMIE	VILLAGE OF HORTONVILLE	Eagle	AVC Edge
PRICE	TOWN OF PRENTICE	None	AVC Edge
PRICE	VILLAGE OF KENNAN	None	AVC Edge
RACINE	VILLAGE OF MOUNT PLEASANT	ES&S M100	ES&S Automark
ROCK	CITY OF JANESVILLE	ES&S DS200	ES&S Automark
ROCK	TOWN OF BELOIT	ES&S DS200	ES&S Automark
RUSK	TOWN OF BIG BEND	None	AVC Edge
SHEBOYGAN	TOWN OF SHERMAN	Sequoia Insight	AVC Edge
ST. CROIX	TOWN OF STANTON	ES&S DS200	ES&S ExpressVote
WAUKESHA	CITY OF NEW BERLIN - Ward 20	ES&S DS200	ES&S ExpressVote
WAUKESHA	CITY OF NEW BERLIN - Ward 26	ES&S DS200	ES&S ExpressVote
WAUKESHA	CITY OF WAUKESHA - Ward 45	ES&S DS200	ES&S ExpressVote

WAUKESHA	TOWN OF OCONOMOWOC	ES&S DS200	ES&S ExpressVote
WAUKESHA	TOWN OF WAUKESHA	ES&S DS200	ES&S ExpressVote
WAUKESHA	VILLAGE OF CHENEQUA	ES&S DS200	ES&S ExpressVote
WAUKESHA	VILLAGE OF MENOMONEE FALLS	ES&S DS200	ES&S ExpressVote