

VOTING EQUIPMENT

Summary

The proper use and security of voting equipment is integral to ensuring accuracy and maintaining voter confidence in the electoral process. Voting equipment accuracy and security has been a topic of concern for many individuals. Careful execution and documentation of the procedures detailed in this section will alleviate many concerns, and ensure that the voting equipment used in your municipality is reliable and accurate.

Voting Equipment Types

The State of Wisconsin uses a mixed voting equipment system. This means that some municipalities use hand-count paper ballots, some use optical scan equipment, and some use direct recording electronic (DRE) equipment (also known as “touchscreen”). Many municipalities use a combination of these equipment types.

1. Municipalities with a population of 7,500 or more are required to use electronic voting equipment in every ward in every election.
 - a. Electronic voting equipment is equipment that tabulates votes electronically and includes optical scan and DRE.
 - b. Ballot marking devices, such as the AutoMARK, do not electronically tabulate votes. Therefore, it is not considered electronic voting equipment.
2. All polling places must be equipped with at least one accessible voting equipment component to permit all voters to vote privately and independently.

More information on accessible voting equipment can be found in the Accessibility section of this manual beginning on page 81.

Voting Equipment Certification and Approval

Before any voting equipment manufacturer can market voting equipment in the State of Wisconsin, they must first achieve certification through a federal process and then approval through a state process.

Federal Certification

In order to achieve federal certification, a voting equipment manufacturer must:

1. Apply to the U.S. Election Assistance Commission (EAC).
2. Submit the equipment to an Independent Testing Authority (ITA), which reviews all firmware, software, and hardware. The ITA issues a report to the EAC.
3. Receive an EAC-accredited certification number. The EAC issues certification numbers after reviewing the ITA reports and confirming that the voting equipment conforms to the Voluntary Voting System Guidelines established by the EAC.

State Approval

In order to achieve Wisconsin state approval, a voting equipment manufacturer must:

1. Submit an application to the State of Wisconsin.
No voting equipment manufacturer can apply to the State of Wisconsin unless it has received federal certification.
2. Prepare the voting system for testing by the Elections Board staff.
The voting system is tested for three mock elections.
3. Hold a public demonstration.
4. Submit equipment to the Election Administration Council for review.
The Election Administration Council is comprised of municipal clerks, county clerks, and members of the disability community.
5. Receive approval at a public meeting from the State Elections Board permitting the use of the voting system for any election in the State of Wisconsin.

Approved Vendors

The following is a list of all manufacturers of voting equipment currently approved for use in the State of Wisconsin. Approved voting equipment version numbers and contact numbers for each of the vendors can be found on the agency website.

1. Diebold Election Systems, Inc.
2. Election Systems & Software (ES&S).
3. Populex Corporation.
4. Sequoia Voting Systems.
5. Vote-PAD*.
6. Voting Technologies International (VTI).

*Vote-PAD is only approved for use in municipalities with populations less than 7,500 who hand-count paper ballots.

Pre-Election Electronic Voting Equipment Testing

Wisconsin statutes require that all municipalities test the software of electronic voting equipment for correctness and accuracy. The purpose of testing electronic voting equipment is to ensure that the equipment will correctly tabulate votes for all offices and referenda.

Public Notice

The testing of electronic voting equipment, either DRE or optical scan equipment, shall be open to the public.

1. The test may not be conducted earlier than ten (10) days before Election Day.
2. Public notice of the time and location of the testing shall be given by the clerk at least 48 hours before.

Procedure

In order to conduct a pre-election test for accuracy, the municipal clerk must create a test deck, which is a plan detailing a predetermined number of valid votes for

each candidate and on each referendum. The test deck should reflect all of the required testing components described in this section.

1. Optical Scan Equipment.

- a. Ballots should be marked to reflect a pre-determined number of valid votes for each candidate and referendum.
- b. Pre-marked ballots shall be run through the optical scan voting unit.
- c. The actual tabulation of the pre-marked ballots shall then be compared to the pre-determined number to verify the voting equipment is tabulating properly.

2. Direct Recording Electronic (DRE) Equipment.

- a. Votes shall be cast on the DRE unit in a manner reflecting a pre-determined number of valid votes for each candidate and referendum.
- b. The print out of the tabulation of the votes cast shall then be compared to the pre-determined number to verify the voting equipment is tabulating properly.
- c. At least two individuals should participate in the DRE test to ensure votes selected on the test deck are entered correctly in the voting system.

3. Errorless Count Requirement.

- a. If an error is detected during the testing, the municipal clerk shall determine the cause and correct the error.
- b. The clerk must make an errorless count before the electronic tabulating equipment is approved by the clerk for use in the election.

Note: The Elections Board recommends that municipalities formulate a test desk that is unique to the municipality, and refrain from using test desks provided by the vendor or manufacturer. This is to ensure any errors not discovered by the vendor will be uncovered by the clerk during the test. Examples of sample test decks are available on the agency website.

Testing Components Requirement

1. Each candidate for every office, for every party, needs to be tested.
2. Overvotes need to be tested for every office and ballot measure on the ballot.

- a. Overvotes are votes in excess of the number allowed by law.
 - b. Overvotes shall be rejected by the voting equipment.
3. Blank Ballots.
- a. Blank ballots are ballots that have no votes recorded.
 - b. A blank ballot shall be tested to ensure that they are rejected by the voting equipment and notify the elector that no votes have been recorded.
4. Write-in votes.
- a. On DRE equipment, the write-in function for each office shall be tested to ascertain that it is functioning properly.
 - b. On optical scan voting equipment it shall be tested to determine that ballots containing write-in votes for each office are properly separated into the write-in bin.
5. September Partisan Primary
- The clerk shall test for one or more ballots that have votes cast for a candidate of more than one recognized party are rejected.
6. November General Election
- The clerk shall test that the straight party function is properly working and that votes cast outside the selected party are tabulated correctly.

Election Day Zero-Count Requirement

Before any ballots on Election Day have been cast on the electronic voting equipment, the election officials shall witness a test of the tabulation component by engaging the printing mechanism and securing a printed result showing a zero count for every candidate and referendum.

Security Procedures for Electronic Voting Systems

The State Elections Board has developed a series of security procedures for electronic voting systems. These procedures should be followed for each election, recount, or for any other situation in which voting systems or memory cards must be accessed. These procedures apply to all memory devices, including, but not

limited to, prom packs, memory cards, and any other removable memory devices that can be programmed or function to store and transfer ballot images or tabulation data. These procedures are intended to protect against malicious breaches to electronic voting equipment components as well as provide transparency of justifiable access.

Procedures

The complete list of Security Procedures for Electronic Voting Systems is available on the agency website. These procedures encompass activities from pre-election to Election Day to post-election. Generally, these procedures provide:

1. Chain-of-custody documentation for storage, access, and transport of memory devices and access keys (if applicable).
2. Use of securing mechanisms, such as serialized and tamper-resistant tags or seals for voting equipment components.
3. Procedures for ensuring the accuracy of programmed components once installed on the equipment.
4. Documentation of authorized access to secured components by election officials.

Alternative Security Procedures

The State Elections Board recognizes the need for flexibility when implementing these security procedures, and acknowledges that alternative means may be used to achieve and ensure the same level of security. Therefore, the State Elections Board will consider requests from municipalities and counties to implement alternative security procedures.

1. Procedures shall be submitted in writing to the State Elections Board (SEB) and received by that office for approval no later than sixty (60) days before the election date. The State Elections Board shall review the alternative procedures and shall either approve the procedures submitted or notify the requesting election official of recommended changes.
2. Approved security procedures will remain in effect until the municipality requests, in writing, a revision or the State Elections Board determines that a change is necessary.
3. Revision requests to previously-filed security procedures shall clearly state which part of the procedures previously filed have been revised.

4. Alternative security procedures shall, at a minimum, detail:
 - a. Physical security of election equipment, software and firmware, and memory cards including but not limited to:
 - i. Locking mechanisms and seals
 - ii. Chain-of-custody procedures and logs
 - iii. Equipment maintenance procedures.
 - b. Verification security including but not limited to:
 - i. Pre-election verification of software and firmware versions
 - ii. Pre-election zero status
 - iii. Receipt of a signed “Certificate of Performance Compliance: Memory Card Security” from each vendor that provides services to the municipality.

Post-Election Audit

Wisconsin statutes require a post-election audit of the performance of each voting system used in the state of Wisconsin. The audit is designed to assess how electronic voting systems performed on Election Day through a hand-count of electronically tallied ballots. The audit is required following each November general election. However, nothing in these procedures prevents a municipality or county from conducting an audit after other elections or from auditing a larger number of voting machines or reporting units than those selected by the State Elections Board or required under these procedures.

Selection

1. Fifty (50) reporting units will be randomly selected by the State Elections Board, through the use of a random-number generator, the Wednesday following the November general election.
 - a. At least five (5) reporting units for each type or version of voting system used throughout the state will be selected.
 - b. If five (5) reporting units are not represented in the original 50, additional reporting units will be selected until all types or versions are represented. For example, in 2006, 67 reporting units were selected for audit.

2. Additional reporting units will be selected to be audited by State Elections Board staff.
 - a. The number audited is not to exceed one percent (1%) of the reporting units in the state.
 - b. The State Elections Board staff will audit different reporting units than those identified to be audited by the municipal clerk.
3. Four (4) contests on the ballot will be selected, including the highest office on the ballot (president or governor).

The remaining three will be drawn by lot from all other contests on every ballot statewide.

Notification

1. Municipalities with reporting units selected for audit will be notified the day following the election.
 - a. The affected county clerks will also be notified.
 - b. It is the responsibility of the municipal clerk to make arrangements with the county to have election materials returned for the purpose of the audit following the county canvass.
 - c. Materials needed for conducting the audit include voter lists, inspectors' statement, tally sheets, reports printed or generated by the voting systems, ballots, and any other required materials.
2. The municipal clerk and county clerk may choose to have the county conduct the audit and the county may choose to conduct the audit following the county canvass.
3. The audits must be completed within two weeks following certification by the county board of canvassers.
4. The audit is considered a public meeting and proper notice shall be posted or published no later than 48 hours in advance.

Procedure

A list of procedures, instructions, and documentation forms will be provided to municipalities selected for audit at the time of notification. Generally, the procedure for conducting a post-election audit is as follows:

1. Two individuals shall conduct independent counts of the ballots from the voting system.

Note that for direct recording electronic systems, the official ballots are the voter verified paper audit trail.

2. The individual tallies shall be compared to each other and any discrepancies shall be resolved to an agreed upon final hand-count tally total.

If the hand counts differ from each other, the paper records/ballots must be recounted.

3. The final hand-count tally total shall then be compared to the Election Night results tally tape and discrepancies noted.

4. Each municipality conducting an audit must submit the designated reporting form(s) and supporting documents from the audit, including tally sheets, to the State Elections Board to indicate that the audit was completed and whether any discrepancies were found.

5. The State Elections Board staff will request that the vendor investigate and explain the reasons for any unexplained differences between the machine tally and the paper record tally.

- a. Should the vendor fail to provide a sufficient written explanation, including recommendations for preventing future occurrences, within 30 days of notification, the State Elections Board will suspend approval of all voting systems manufactured or serviced by the vendor in Wisconsin.
- b. This suspension will be implemented immediately, pending an appeal by the vendor to the Board, which must be filed within 30 days.
- c. Investigations of discrepancies shall be open and transparent, with active involvement of interested parties.

6. Based upon the results of the audit, the State Elections Board may, at its sole discretion, choose to re-test the voting system per ElBd Chapter 7 of the Wisconsin Administrative Code. The test is a condition of continuing approval of the voting system.

Frequently Asked Questions

1. What is a voter-verified paper audit trail?

Wisconsin law, §5.91(18), Wis. Stats., requires that all direct recording electronic (DRE) voting systems produce a complete, permanent paper record showing all votes cast by the elector. The voter-verified paper audit trail (VVPAT) is considered the official ballot and is to be used in a recount of each vote cast by the elector.

2. Should we be conducting pre-election tests in “testing mode” or in “election mode?”

The State Elections Board recommends that municipalities conduct pre-election testing in election mode. By testing in election mode, any apparent errors that may not be triggered in testing mode shall be discovered. If you have questions on how to determine whether your equipment is set in test mode or election mode, you should contact your voting equipment vendor.

3. Can we reuse memory cards?

Nothing prohibits reuse of memory cards, though municipalities must comply with §7.23(1)(g), Wis. Stats.:

“Detachable recording units and compartments for use with electronic voting machines may be cleared or erased 14 days after any primary and 21 days after any election. Before clearing or erasing the units or compartments, a municipal clerk shall transfer the data contained in the units or compartments to a disk or other recording medium which may be erased or destroyed 22 months after the election to which the data relates.”

List of Related Forms and Publications

All forms and publications are available on the agency website or can be ordered from the State Elections Board.

Other Publications

ElBd Chapter 7, Wisconsin Administrative Code
Security Procedures for Electronic Voting Systems