
CHAPTER 9

VOTING SYSTEMS

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VOTING SYSTEMS

Standards, Testing, and Certification

Voting machines play an important role in the election process. Voters must be confident their votes are being recorded accurately and their privacy is being protected, and thus voting equipment plays an integral role in the integrity of elections and protecting democracy. To provide this level of confidence, voting machines are tested against standards before being used in an election.

Voting system standards vary from state to state. Some states adopt federal standards, some develop their own standards, and others use a hybrid of both approaches. Nevada's legal standard is for a voting system to meet or exceed federal standards [NRS 293B.063](#) and to have been certified by the Voting System Testing and Certification Program of the Election Assistance Commission.

Federal standards are set by the U.S. Election Assistance Commission (EAC) with the passage of the Help America Vote Act by Congress in 2002. The Voluntary Voting System Guidelines, like the name, are voluntary for states but outline specifications against which voting system should be tested. The Voluntary Voting System Guidelines, or VVSG, are based on five areas of requirements: security, functionality, privacy, usability, and accessibility. The National Institute of Standards and Technology (NIST) writes the detailed technical guidelines, and review of these guidelines by a group of volunteer stakeholders known as the Technical Guidelines Development Committee (TGDC).

The following sections cover both Nevada's approval for use within the state as well as procedures for use once implemented for use.

Voting System Approval Process

Under Nevada law, a voting system and any modification to a voting system must be approved by the Secretary of State before it can be used in any election [NRS 293B.105](#). Regulation also prohibits the installation of any software on a mechanical voting system, or component thereof, unless the Secretary of State has approved or required the installation of the software. In addition, a voting system must meet or exceed Federal standards for voting systems before the system can be approved for use in Nevada.

- Application [for State Certification of Voting System](#) (MS Word)
- Nevada Revised Statutes: [Chapter 293B - Mechanical Voting Systems](#)
- Nevada Administrative Code: [Chapter 293B - Mechanical Voting Systems](#)

Voting Systems Approved for Use

For the most current information about each system, equipment, and version in use, see the Voting System page on the Secretary of State's website at:

<https://www.nvsos.gov/sos/elections/election-resources/voting-system>.

Dominion Voting Systems:

- [Democracy Suite 5.4](#) (February 6, 2018)
- [Democracy Suite 5.4-F](#) (November 2, 2018)
- [Democracy Suite 5.12](#) (March 11, 2020)
- [Democracy Suite 5.12 HiPro Scanner](#) (February 17, 2022)
- [Democracy Suite 5.17](#) (July 21, 2023)

Election Systems & Software:

- [EVS 5.2.2.0](#) (August 28, 2017)
- [EVS 5.4.0.0](#) (August 28, 2017)
- [EVS 6.1.0.0](#) (February 6, 2020)
- [EVS 6.1.1.0](#) (December 7, 2021)
- [EVS 6.2.0.0](#) (February 17, 2022)
- [EVS 6.3.0.0](#) (July 24, 2023)

[Federally Certified Voting Systems and Resources EAC](#)
[List of Certified Voting Systems](#)

Voting System Testing and Security Overview

Nevada's voting system and voter registration system are two separate different systems.

The voter registration system is a centralized statewide voter registration system maintained by the Office of the Secretary of State and Nevada's local election officials. The voter registration system provides information relating to registered voters throughout the State of Nevada and does not connect to or contain information used by the statewide voting system.

The voting system is the equipment used to create ballots, cast, and count votes, and display election results. Nevada's voting system is a "standalone system" that is not connected to a network, the Internet, and does not have wireless connection capabilities. Before any component can be used in Nevada's voting system, it must first go through a series of tests and audits.

Additionally, each component maintains a chain of custody with tamper evident security seals and access limited to authorized personnel. The following documents describe these tests and procedures. Please refer to this narrative and diagram for an overview of Nevada's Voting System Testing and Security procedures.

Before a voting system or ballot marking device can be examined for use in Nevada, a system must be tested to federal standards. For more information on [the Federal Voting System Testing & Certification](#), please visit the U.S. Election Assistance Commission website at EAC.gov.

[Nevada Voting System Testing and Security Narrative](#)
[Nevada Voting System Testing and Security Diagram](#)

Security Protocol and Testing

Voting system security is a complex process made up of several checks and balances. For example, the components of a voting system are not considered part of an official system until each component is thoroughly examined and continues to meet routine accuracy checks. The following describes the main testing and security procedures and how they interrelate. The attached diagram illustrates the related timing and flow of this process.

Pursuant to State Law voting system testing must be conducted by an Accuracy Certification Board and may be observed by the public [NRS 293B.140](#) and [NRS 293B.145](#).

Acceptance Testing

Before any component is considered part of the official voting system, it undergoes acceptance testing. This testing examines a system and its components to validate performance of delivered units and to and that the system is, in fact, the certified system purchased. Equipment that is suspected to be malfunctioning, have a broken chain of custody, or maliciously accessed, must be thoroughly investigated and pass acceptance tested before being brought back into the chain of custody.

Chain of Custody

Upon completion of acceptance testing, components are brought into a “trusted” environment that is maintained by limiting access to authorized individuals, tamper evident security seals, and access audit logs. Each time a unit is accessed the tamper evident security seals are examined and checked against the access log. At any point that the chain of custody is broken, the cause must be investigated, and appropriate testing must take place before equipment can be placed back into the chain of custody, [NAC 293B.110](#).

Regulation requires any mechanical voting system, mechanical voting device and other voting equipment in the custody of a county or city, including, without limitation, central counting equipment, precinct scanners, electronic rosters, direct recording equipment, voting machines and ballot marking devices, each county clerk and city clerk shall maintain in permanent ink a written documentary record of:

- Any transport of a mechanical voting system, mechanical voting device or other voting equipment between parties, including, without limitation, documentation of seals, chain- of- custody access logs and any other related information; and
- The uninterrupted chain of custody of each mechanical voting system and mechanical voting device and all other voting equipment in the custody of the county or city, which must span the entire time the mechanical voting system, mechanical voting device or voting equipment has been in the custody of the county or city, as applicable.

All records maintained pursuant to the chain of custody are subject to inspection by the Secretary of State.

All mechanical voting systems, mechanical voting devices and other voting equipment must have seals that are tamper-evident and identified by a serial number. The county or city clerk shall record the serial number of each seal on the records of chain of custody for any mechanical voting system, mechanical voting device or other voting equipment that is transported to or from a polling place. The entry of the serial number of the seal in the records of chain of custody must be verified by two people who must:

- Confirm that the serial number in the records matches the serial number of the seal; and
- Sign and date the entry in the records.

If a seal is changed or replaced, the records of chain of custody must include the reason for the replacement, the date of the replacement and the signatures of two persons who have verified that the serial number of the replacement matches the number entered in the record.

The chain of custody and audit trail requirements also applies to ballot marking devices. Certify Software, Firmware and Operating Systems [NAC 293B.110](#).

Before each election cycle, the software and firmware installed on each component of the voting system must be certified to match the versions approved for use and on file with the National Software Reference Library. This test is conducted by verifying the “hash” value of the software and firmware on each component and comparing it against the value on file with the National Software Reference Library. The hash value is an algorithm that maps the digital fingerprint of the code.

Logic and Accuracy Testing

Conducted before and after each election, this testing ensures that each component will accurately record, tally, and audit vote totals. This testing ensured that the contests are correctly reflected on equipment, all candidates and questions on a ballot can be voted on, and that results are accurately tabulated and reported. Local election officials use county-made test ballots with predetermined vote totals to test each component of the system, including but not limited to mechanical recording devices, ballot marking devices, tabulators, and Voter Verified Paper Audit Trails. Any error detected during these tests must be immediately reported to the Secretary of State, [NRS 293B.150](#), [NRS 293B.155](#), [NAC 293B.090](#).

Tests before must occur not earlier than 2 weeks before, and not later than 5 p.m. on the day before the first day of early voting.

Counties must also ensure the mechanical voting system for the election contains the official title for each race that will be on the ballot. The Secretary of State will prepare and send to each county clerk not later than 180 days before an election a report containing the official titles for each race that will be on the ballot.

Security Audits and Ballot Reconciliation

Before, during and after voting, all components used during the election are routinely examined for unauthorized access. This includes examining tamper evident security seals that protect equipment access points as well as areas limited to authorized personnel, such as ballot and equipment storage areas. Equipment is also randomly selected and audited for accuracy. Auditing and reconciling equipment and ballots is completed by comparing the number of voters that have appeared and been checked in to match the number of ballots cast. These reconciliations take no less than daily and occur randomly while the polls are open.

Tabulation Certification

Tabulation equipment must be tested immediately before the start of the official count of the ballots and again within 24 hours after the official count takes place. This test is conducted by processing a pre-audited group of logic and accuracy test ballots. If any errors are detected during these tests, the cause must be determined before the unit can be approved to tabulate ballots. The results of these tests are available for public inspection during the period a candidate may contest the election, [NRS 293B.165](#).

Maintenance and Storage

Upon completion of the election cycle, each unit is evaluated for servicing before being placed in storage. Units requiring servicing are repaired and acceptance tested before being placed back into the chain of custody. All components of a voting system are securely stored with access audited and limited to authorized personnel. While in storage, system components are routinely monitored and maintained according to the applicable maintenance schedule. Before a voting system can be used in another election, it starts the process again, beginning with verifying the chain of custody while in storage and certifying the software, firmware, and operating systems.

Regulation [NAC 293B.055\(1\)](#) requires local election officials to ensure that each mechanical voting system and mechanical voting device and all other voting equipment used by the county or city is secured in a facility with controlled access when not in use. A person shall not access the mechanical voting system, mechanical voting device or voting equipment unless he or she has been given specific written authorization from the county or city clerk. The county or city clerk shall notify the Secretary of State in writing within 24 hours if any person accesses a mechanical voting system, a mechanical voting device or any other voting equipment without such authorization.

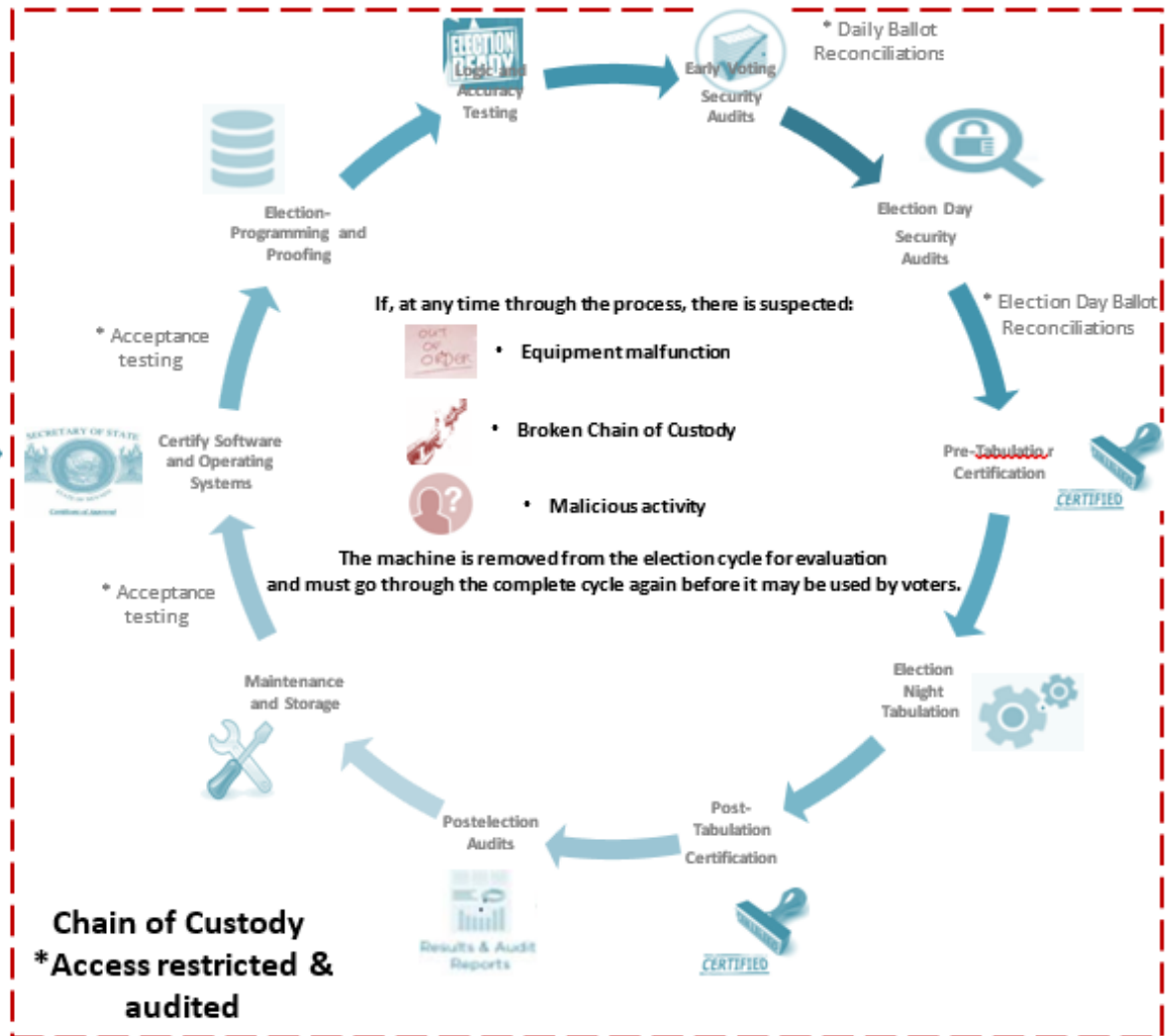
Each county and city clerk shall maintain a record of each person who accesses a mechanical voting system, a mechanical voting device or any other voting equipment. The record must include the name of the person, the signature of the person and the time and date of access. If access is controlled using a key card or similar door access system, the system must produce records that meet the requirements of this subsection, pursuant to [NAC 293B.055\(2\)](#).

Testing and Security Process Diagram

Nevada Voting System
Testing and Security
Diagram 8/2016



New
Equipment



Electronic Roster

An Electronic Roster is also referred to as an Electronic Poll Book or E-Poll Book. Electronic Rosters allow for an election jurisdiction to perform many functions electronically. For example, electronic poll books allow voters to sign into a polling location electronically, capture and compare signatures, as well as update voting history.

The following includes procedures applicable to testing electronic poll books. For more information about electronic poll books, contact your local election office.