Rule 11. Voting Systems

11.1 Voting system access

11.1.1 In accordance with section 24-72-305.6, C.R.S., all permanent and temporary county staff and all vendor staff who have access to the voting system or any voting or counting equipment must pass a criminal background check. A person convicted of an election offense or an offense containing an element of fraud may not have access to a code, combination, password, or encryption key for the voting equipment, ballot storage area, counting room, or tabulation workstation.

11.2 Voting system inventory

11.2.1 The designated election official must maintain an inventory record for each component of the voting system. The record must include the manufacturer, make, model, serial number, and date of acquisition.

11.2.2 The inventory must be in an electronic format and exportable to a comma separated value (CSV), Excel spreadsheet (XLS or XLSX), or quote or tab separated (TXT) file before delivery to the Secretary of State.

11.2.3 The designated election official must file the voting system inventory required by Rule 11.2.1, noting which equipment will be used for the election, with the Secretary of State no later than ten days before the election.

11.2.4 A county clerk must notify the Secretary of State if a license agreement with a voting system vendor is terminated within one week after the agreement is terminated. A county clerk must also notify the Secretary if a voting system component is no longer going to be used as part of the voting system, but the component will be retained by the county. The county clerk must follow the requirements found in Rule 20.5.7 for all retained components.

11.3 The clerk must perform a hardware diagnostic test and a logic and accuracy test.

11.3.1 Hardware Diagnostic Test

(a) The designated election official must perform the Hardware Diagnostic Test before the election on each device that the designated election official will use in the election, including spare or back up devices. The test must include the following devices and provide the following information:

(1) All input and output devices;

(2) Communications ports;

(3) System printers;

(4) System modems when applicable;

(5) System screen displays;

(6) Boot performance and initializations;

(7) Display of firmware or software hash value (MD5 or SHA-1) when possible;

(8) Confirmation that screen displays are functioning;

(9) Date, time and calibration of systems, if applicable; and

(10) Scanner calibration, if applicable.

(b) The designated election official must seal each device upon the successful completion of the test and retain documentation of the seal information and all records in accordance with section 1-7-802, C.R.S.

11.3.2 Logic and Accuracy Test

(a) The county clerk must conduct the public Logic and Accuracy Test no later than the 21st day before election day.

(b) The county must ensure that the Logic and Accuracy Test is open to the extent allowable in accordance with section 1-7-509(2)(b), C.R.S. The county clerk may limit the number of representatives from each group because of space limitations.

(c) Preparing for the Logic and Accuracy Test

(1) A county that is conducting an election with at least one plurality voting contest must prepare a test deck of ballots that:

(A) Includes every ballot style and, where applicable, precinct;

(B) Includes a sufficient number of ballots so that each vote position in each contest receives a unique, known vote total for that contest, including write-in candidates, contests that permit an elector to vote for two or more positions, and overvotes and undervotes for each contest;

(C) Includes at least one write-in vote for each qualified write-in candidate so that all qualified write-in candidate names will appear in the LAT result uploaded to ENR as required by Rule 11.9.3; and

(2) A county that is conducting an election with at least one instant runoff voting contest must, for each voting contest:

(A) Include a sufficient number of ballots to mark a vote position for every candidate in the contest in the first round of tabulation, including write-in candidates;

(B) Include at least one overvote, at least one skipped ranking, and at least one duplicate ranking; and

(C) Be marked in such a manner so that no candidate receives a majority of the first ranking votes in the first round.

(3) Any county test deck must include ballots printed from a ballot-on-demand or mobile ballot production printer if either will be used in the upcoming election and must include commercially printed ballots.

(4) The county must convene a Testing Board of one registered elector from each of the major political parties. Testing Board members must be registered to vote in the county and be sworn in as election judges.

(5) The county must provide at least 25 ballots that are clearly marked as test ballots to each Testing Board member. A county conducting an instant runoff election must ensure that instant runoff voting contests are included on at least 25 test ballots per board member.

(6) Testing Board members must mark their test ballots following the instructions printed on the ballots and retain a record of the tally. In a county conducting an instant runoff election, if after a review of the machine and hand tally of the testing board member's test ballots it is found that the ballots did not require a second round of tabulation, the testing board member must mark 25 additional test ballots which will result in no candidate receiving a majority of votes in the first round of tabulation. A county clerk may remove a member of the Testing Board from their duties if that member refuses to mark their ballot according to the instructions printed on the ballot or as required by this Rule.

(7) The Testing Board must test the ballots on each type of voting device used in the election and each type of ballot including audio ballots.

(d) Conducting the Test

(1) The county and Testing Board must observe the tabulation of all test ballots, compare the tabulation with the previously retained records of the test vote count, and correct any discrepancies before the device is used in the election.

(2) The county must reset the public counter to zero on all devices and present the summary report to the Testing Board for verification.

(3) The county must make an appropriate number of voting devices available and the Testing Board may witness the programming of devices necessary for the test.

(4) The Testing Board and designated election official must count the test ballots as follows, as applicable:

(A) Ballot Scanners:

(i) The Testing Board must test at least one central count ballot scanner.

(ii) The Testing Board must randomly select the machines to test.

(iii) The Testing Board must count the board and county's test ballot batches separately and generate reports to verify that the machine count is identical to the predetermined tally.

(B) Ballot Marking Devices (BMDs):

(i) The Testing Board must randomly select and test at least one BMD.

(ii) At least two members of the Testing Board must use the selected BMD to mark all of the ballots and print at least 25 ballots in the same manner that the testing board member manually marked their test ballots. At least two members of the Testing Board must mark at least one of their test ballots using the audio ballot playback and accessible input devices.

(iii) A Testing Board member or county election official must separately scan and tabulate the

test ballots marked with and printed from the BMD on one central count or polling location scanner, and generate a results report.

(iv) Each Testing Board member must verify that the results report generated from the scanner exactly corresponds to the testing board member's tally of the votes on the manually marked paper ballots comprising their test ballots.

(e) Completing the test

(1) The county must keep all test materials, when not in use, in a durable, secure box. Each member of the Testing Board must verify the seals and initial the chain-of-custody log maintained by the county clerk. If the records are opened for inspection, at least two election officials must verify the seals and initial the chain-of-custody log.

(2) The county must backup and preserve the election database or project containing test results, and export and preserve the test results and CVR files. The county must prepare and preserve a ballot manifest corresponding to the test CVR file.

(3) The county must upload the test results file during the ENR test required under Rule 11.9.3. The county must hash and upload the CVR and ballot manifest to the RLA software during the RLA practice period, as required under Rule 25.2.2(b).

(4) After testing, the Testing Board must watch the county reset and seal each voting device, if applicable.

(5) The Testing Board and the county clerk must sign a written statement attesting to the qualification of each device successfully tested, the number of the seal attached to the voting device at the end of the test, if applicable, any problems discovered, and any other documentation

necessary to provide a full and accurate account of the condition of a given device.

(6) The county may not change the programming of any voting device after completing the logic and accuracy test for an election, except as required to conduct a recount or as authorized by the Secretary of State.

11.4 Election database project backups

11.4.1 The county clerk must create election project backups at the following times at a minimum:

(a) At the conclusion of the logic and accuracy test with the data from the completed logic and accuracy test according to Rule 11.3.2(e)(1);

(b) After the election project has been reset following the logic and accuracy test according to Rule 11.3.2(e)(4). The county clerk must designate this election project backup as the election setup records as defined by Rule 1.1.30 and according to section 1-7-510, C.R.S. The county clerk must submit a copy of the election setup records to the Department of State according to Rule 11.4.3;

(c) When a county clerk concludes ballot processing activities for the day, including election night;

(d) After all ballot processing activities have concluded on the ninth day after the election; and

(e) After the canvass board has certified the results of the election.

11.4.2 If the county's voting system does not export logs from the election management system when an election project backup is created, the county clerk must also export the logs from the election management system for retention, according to Rule 20.10.2, at the time they create an election project backup according to the procedures defined by the voting system vendor.

11.4.3 A county that electronically tabulates election results must submit election setup records to the Secretary of State so that they are received no later than 5:00 p.m. on the seventh day before election day.

(a) Election setup records must be in an electronic media format that is native to the jurisdiction's specific ballot creation and tabulation system. Acceptable media formats include CD-ROM, DVD-ROM, or flash media.

(b) The county must create a hash value using a SHA-256 algorithm of the setup records file and transmit the hash value to the Secretary of State by e-mail to voting.systems@coloradosos.gov.

(c) The designated election official must include a point of contact and method of contact (phone, email, etc.).

(d) Within one business day of receipt of the election setup records, the Secretary of State's office will contact the jurisdiction to confirm receipt.

(e) The Secretary of State's office will store the election setup records in a secured, limited-access location.

(f) The county clerk and Secretary of State must treat the election setup records as confidential.

11.5 The designated election official must retain all testing records and documentation for 25 months.

11.6 Accessible voting systems. A political subdivision may not purchase or lease voting systems for use by people with disabilities unless the system is certified by the Secretary of State.

11.7 Notice of voting system malfunction

11.7.1 The voting system provider must submit a software or hardware incident report to the Secretary of State no later than 72 hours after an incident has occurred. Submission of this incident report by the provider is required even if the designated election official also submits a report of the same incident.

11.7.2 A vendor or designated election official must notify the Secretary of State within 24 hours of a reported or actual malfunction of its voting system. The notice must include a description, date, and the names of those who witnessed the malfunction, as well as the procedures followed before the malfunction, and any error messages displayed. The notice may be verbal, but a written notice must follow.

11.7.3 If the Secretary of State requires additional information the vendor or the designated election official must submit a report to the Secretary of State's office detailing the reprogramming, repair, or any other actions necessary to correct a voting system malfunction.

(a) The report must address whether permanent changes are necessary to prevent similar malfunctions in the future.

(b) If the malfunction requires a programming or election setup change to the database or other parts of the voting system, the designated election official must submit an updated election setup record to the Secretary of State’s office as set forth in Rule 11.4.3.

(c) The report must be submitted within 30 days after the date of the request by the Secretary of State. If an election is scheduled within 60 days of the date of request by the Secretary of State, the Secretary of State may set an emergency deadline for filing the report.

(d) Failure to submit a report within the required period is grounds to decertify the system.

(e) The political subdivision holding the election in which the voting system malfunction occurred may submit the report in lieu of a report from the system's vendor.

(f) A copy of this report will be on file in the Secretary of State's office.

(g) The Secretary of State's office will distribute a copy of this report to all counties using the voting system in question.

11.8 Purchases and contracts

11.8.1 In accordance with sections 1-5-617(5) and 1-5-623(3), C.R.S., a political subdivision may not purchase, lease, transfer, or use a certified electromechanical or electronic voting system, device, or related component, unless the political subdivision first applies for and obtains approval from the Secretary of State.

11.8.2 The Secretary of State will approve a political subdivision's application to purchase, lease, or use the voting system, device, or related component, after considering all relevant factors, including without limitation:

(a) Evaluations of the voting system performed by public committees organized by the secretary of state, and any recommendations regarding the use of the voting system by any such public committee;

(b) The voting system's ability to support the efficient and uniform conduct of elections under the uniform election code of 1992, as amended;

(c) The voting system's utilization of commercial off-the-shelf hardware components, rather than proprietary, purpose-built hardware components;

(d) The voting system's integration of its data management application, if any, with other components of its election management system, so that system users can operate or access all election management system components within a single interface on the same server or workstation;

(e) The voting system's ability to support efficient risk-limiting audits as required by section 1-7-515, C.R.S.;

(f) The voting system's compatibility with dependent systems that are not directly related to the tabulation of votes and ballots, but are nevertheless utilized by designated election officials in conducting elections in Colorado, including:

(1) Ballot-on-demand systems,

(2) Election Night Reporting systems,

(3) Electronic ballot delivery systems,

(4) Election definition data exported from SCORE, and

(5) The Secretary of State's RLA software;

(g) The voting system's ability to efficiently support elections principally conducted by mail ballot, in all political subdivisions, regardless of their size, number of registered electors, or fiscal resources, including:

(1) The voting system's inclusion of applications enabling election judges to digitally, rather than manually, adjudicate, resolve, and duplicate ballots with marginal or ambiguous voter markings, and

(2) The voting system's use of ballot scanners equipped with automatic document feeders, enabling election judges to scan multiple ballots rather than a single ballot at a time;

(h) The voting system's ability to enable voters with disabilities to vote independently and privately, and on the same or substantially similar devices throughout Colorado, without regard to their county of residence;

(i) The voting system's scalability and affordability, enabling all political subdivisions to utilize the same or substantially similar equipment, regardless of their size, number of registered voters, or fiscal resources;

(j) The voting system's portability as provided in the provider's hardware and software license agreements, enabling political subdivisions that purchase, lease, or use the system to loan or borrow voting devices and related components to or from one another without charge, as exigencies and other circumstances warrant, and as approved by the Secretary of State;

(k) The voting system's ability to easily export images of voted ballots, in response to requests filed under section 24-72-205.5(3)-(4), C.R.S., of the Colorado Open Records Act;

(l) The voting system provider's past performance of successfully implementing its voting system in multiple jurisdictions simultaneously;

(m) The voting system provider's past performance of successfully training local election officials to use its voting system in multiple jurisdictions simultaneously;

(n) The voting system provider's past performance of post-implementation customer and technical support for political subdivisions that acquire its voting system;

(o) The voting system provider's past performance of compliance with Colorado law regarding voter anonymity, and responsiveness to other issues and concerns raised by designated election officials and Secretary of State staff members;

(p) The voting system provider's financial stability and sustainability as an ongoing business concern; and

(q) The extent to which the voting system provider's hardware and software license agreements permit the Secretary of State, or political subdivisions that license the hardware and software applications necessary to program elections and voting devices, to perform those services without charge for other political subdivisions that are licensed to use the voting system.

11.8.3 The Secretary of State will approve a county's application for the purchase, lease, or use of an electromechanical or electronic voting system, device, or related component, certified after January 1, 2016, only if:

(a) The voting system includes, and the county acquires, digital ballot resolution and adjudication capability;

(b) The voting system includes, and the county acquires, central count ballot scanners equipped with automatic document feeders capable of scanning multiple ballots rather than a single ballot at a time;

(c) The voting system integrates all components of the election management system, including the data management application, if any, into a single user interface that is operable or accessible from the same server or workstation;

(d) The voting system is capable of supporting efficient risk-limiting audits, in the manner required by Rule 21.4.12;

(e) The voting system is compatible with dependent systems that are not directly related to the tabulation of votes and ballots, but are nevertheless utilized by designated election officials in conducting elections in Colorado, including:

(1) Ballot-on-demand systems,

(2) Election Night Reporting systems,

(3) Electronic ballot delivery systems,

(4) Election definition data exported from SCORE, and

(5) The Secretary of State's RLA Software;

(f) The voting system provider's software and hardware license agreements expressly permit political subdivisions that purchase, lease, or use the system to loan or borrow voting devices and related components to or from one another, without charge, as exigencies and other circumstances warrant, and as approved by the Secretary of State; and

(g) The voting system provider's software and hardware license agreements expressly permit the Secretary of State, or political subdivisions that license the hardware and software applications necessary to program elections and voting devices, to perform those services without charge for other political subdivisions that are licensed to use the voting system.

11.8.4 Due to their unsuitability for risk-limiting audits, the Secretary of State will not approve a county's application to purchase, lease or use a ballot scanner certified for use after January 1, 2016, that is not equipped with

an automatic document feeder, whether intended for use by voters at polling locations, or by election judges at central count locations.

11.8.5 A political subdivision's contract to purchase or lease a voting system under Rule 11.8.1 must provide for user training and preventative maintenance.

11.8.6 The Secretary of State will only approve a political subdivision's application to purchase or lease a voting system or component if the voting system or component allows the designated election official to conduct elections in accordance with Colorado law, as amended.

11.8.7 The Secretary of State will maintain a list of all certified electromechanical or electronic voting systems, devices and related components, purchased, leased, or used by Colorado political subdivisions. The list will include, at minimum, the name of the jurisdiction, the name and version of the voting system, the date of acquisition, and the serial numbers of voting devices.

11.9 Election Night Reporting. The county must use the Secretary of State's Election Night Reporting (ENR) system to report results for all primary, general, coordinated, and recall elections in accordance with this Rule.

11.9.1 A data entry county must upload a results data file to ENR containing the election results on the dates and times specified in Rules 11.9.3 through 11.9.5. The county must program its election database so that the results file exported from the voting system is formatted in accordance with the following requirements:

(a) Contest names: Except as otherwise provided in subsections (1) – (3) of this Rule, the results file must contain the contest names as they are certified for the ballot.

(1) For primary elections, the county must append to the end of the certified contest name the SCORE abbreviation of the political party affiliation of the candidates in the contest (e.g., "United States Senator – Dem," "State Senator – District 21 – REP," "County Treasurer – Lib,").

(2) For ballot measures other than judicial retention questions, the contest name must include the political subdivision that

referred the measure to the ballot, the ballot measure type, and the number or letter as it appears on the ballot (e.g., "Adams County Ballot Issue 200," "City of Brighton Ballot Question 5A,").

(3) For Judicial Retention Questions, the contest name must include the court and the title and last name of the justice or judge standing for retention (E.g., "Supreme Court – Justice Erickson," "Court of Appeals – Judge Jones," "1st Judicial District– Judge Smith," "Adams County Court – Judge Doe,").

(b) Contest order: Except as otherwise provided in subsections (1) – (4) of this Rule, the results file must list the contests in the same order as they are certified for the ballot.

(1) For primary elections, the results file must list the contests in the order prescribed by section 1-5-403(5), C.R.S., with results for each contest grouped in alphabetical order of the abbreviated names of the participating major political parties, followed by the abbreviated names of participating minor political parties and qualified political organizations (e.g., "United States Senator – DEM," "United States Senator – REP," "United States Senator – GRN," "United States Senator – LIB," "United States Senator – UNI,").

(2) The results file must list ballot measures in the order certified by the Secretary of State, followed by the ballot measures certified by other participating political subdivisions in the order and using the numbering conventions specified in Rule 4.5.2(e).

(3) A county using the Dominion, or Clear Ballot voting system must include and populate the contest sequence number field in its results files to define the order of contests on the ballot as required by this Rule.

(c) Candidate names: The results file must include candidates' names in proper case and include periods following initials (e.g., "John A.

Smith"), and may not include the name or abbreviation of the candidate's political party.

(d) Precinct names: If a county reports results by precinct, its results file must only include the ten-digit precinct number from SCORE, followed by a dash and any split precinct indication (e.g., 1234567890-1).

(e) Provisional results: The results file must include a "provisional" precinct or counting group as a placeholder for separately reported provisional ballot results if required by section 1-8.5-110(2), C.R.S.

11.9.2 No later than 45 days before the election, a county clerk must provide their SCORE election_details_to_dominion export to the Secretary of State's Office by sending an email to voting.systems@coloradosos.gov.

11.9.3 No later than 35 days before the election, a county must provide the following information to the Secretary of State:

(a) A data entry county must email a sample or "zero" file. Except in the case of withdrawn or deceased candidates, a data entry county may not change or alter the election database or export file after submitting its zero file.

(b) A manual entry county must send a list of all ballot content.

11.9.4 No later than 21 days before the election, a data entry county must upload the LAT results file to ENR. At a minimum, the LAT results file must contain the results of the complete county test deck required under Rule 11.3.2(c)(1). The county must check the totals and content configuration reflected on the ENR website at the time of uploading the LAT results file. The county must send an email to voting.systems@coloradosos.gov once verification of the ENR website is complete.

11.9.5 Election night uploads. All counties other than manual entry counties must export or produce preliminary election results and upload them to the ENR system.:

(a) While tabulating, counties must upload to the ENR system at a minimum:

(1) After the close of polls but no later than 8:00 p.m.; and

(2) No later than 9:00 p.m.

(b) If the county believes it will be unable to meet the schedule outlined in this rule, it must contact the voting systems team before the deadline.

(c) The Secretary of State may, at his or her discretion, waive or modify this rule.

11.9.6 A county must produce preliminary election results and upload them to the ENR system after counting is completed on election night, indicate in the ENR system that election night counting is completed, and notify the voting systems team by email that election night counting is completed.

11.9.7 Canvass upload. The county must export or produce official election results, and check the appropriate box in the ENR system to indicate that the canvass upload is complete, not later than close of business of the first business day after the statutory deadline for completing the canvass.

11.10 Reports or materials required by this Rule may be submitted to the voting systems team:

11.10.1 By delivery to:

Colorado Secretary of State
Attn: Voting Systems
1700 Broadway – Suite 550
Denver, CO 80290

11.10.2 By email to:

voting.systems@coloradosos.gov

11.10.3 By Fax to:

303-869-4861