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ELECTIONS DIVISION

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March 06, 2019

County Clerk/Registrar of Voters (CC/ROV) Memorandum # 20057

TO: All County Clerks/Registrars of Voters

FROM: /s/ Raj Bathla
Senior Legal Analyst

RE: Regulations: Risk-Limiting Audits

The Secretary of State has promulgated regulations related to conducting Risk-Limiting Audits, which are in effect as of March 5, 2020. The final version of these regulations is attached to this memorandum and available on the Secretary of State's website at <http://www.sos.ca.gov/administration/regulations/>.

These regulations establish the procedures for conducting risk-limiting audits in lieu of the 1% manual tally beginning with the March 3, 2020, Presidential Primary Election.

For more information about Risk-Limiting Audits and the Risk-Limiting Audits software tool, please visit the Secretary of State website at: <http://www.sos.ca.gov/elections/risk-limiting-audits/>.

If you have any questions, please feel free to contact me at rbathla@sos.ca.gov or (916) 657-2166. Thank you.

Enclosed: Risk Limiting Audits Regulations effective March 5, 2020;
California Post-Election Risk-Limiting Audit Ballot Manifest Format

Risk Limiting Audits

California Code of Regulations
Title 2. Administration
Division 7. Secretary of State
Chapter 2. Risk Limiting Audits

20110. General Provisions

(a) The purpose of this chapter is to establish guidelines and procedures for an elections official to conduct a risk-limiting audit in accordance with the requirements of Division 15, Chapter 4, Article 5.5 of the Elections Code.

(b) Pursuant to Elections Code section 15367(a)(1), commencing with the statewide primary election held on March 3, 2020, the elections official conducting an election may conduct a risk-limiting audit in place of the one percent manual tally required by Elections Code section 15360 during the official canvass of any election.

*Note: Authority cited: Section 12172.5, Government Code; Section 15367, Elections Code.
Reference: Sections 15150, 15360 and 15367, Elections Code.*

20111. Definitions

As used in this Chapter, the following terms have the following meanings:

(a) “Ballot” shall have the meaning set forth in Elections Code section 15366(a). A validly cast ballot is any ballot that is eligible to be counted in the canvass of an election, as specified in Division 15, Chapters 2 through 4 of the Elections Code.

(b) “Ballot card” means a card upon which is printed, or identified by reference to the ballot, the names of candidates for nomination or election to one or more offices or the ballot titles of one or more measures. A ballot may be comprised of multiple ballot cards.

(c) “Ballot-level comparison audit” shall have the meaning set forth in Elections Code section 15366(b).

(d) “Ballot manifest” means a detailed description of how the ballots are stored and organized, listing the unique physical location of each and every ballot card cast in the election in such a way that individual ballot cards or batches of ballot cards can be found, retrieved, and examined manually.

(e) “Ballot-polling audit” shall have the meaning set forth in Elections Code section 15366(c).

(f) “Cast vote record” shall have the meaning set forth in Elections Code section 15366(d). The cast vote record shall be generated by the voting system.

(g) “Cross-jurisdictional contest” shall have the meaning set forth in Elections Code section 15366(e).

(h) “Elections official” shall have the meaning set forth in Elections Code section 320.

(i) “Electoral outcome” shall have the meaning set forth in Elections Code section 15366(f).

(j) “Partial risk-limiting audit” or “partial RLA” shall have the meaning set forth in Elections Code section 15366(g).

(k) “Public notice” means the release of information to the public through one or more of the following readily available communication channels: a website update, a social media post, an email list mailing, a press release, and a notice posted at an office open to the public.

(l) “Random seed” means a number consisting of at least 20 digits that is used to generate a random number sequence to select ballot cards for audit.

(m) “Risk-limiting audit” or “RLA” shall have the meaning set forth in Elections Code section 15366(h).

(n) “Risk-limiting audit software tool” or “RLA software tool” means software that can perform any of the audit types described in Section 20112. Pursuant to Elections Code section 15367(b)(2)(E), the algorithms and source code of the RLA software tool shall be disclosed to the public. The SOS shall affect this disclosure by posting the source code, or a link to the source code hosted on another publicly available website, on its website.

(o) “Voting system” shall have the meaning set forth in Elections Code section 362.

*Note: Authority cited: Section 12172.5, Government Code; Section 15367, Elections Code.
Reference: Sections 320, 362, 15302, and 15366, Elections Code.*

20112. Audit Types

The elections official shall use an RLA software tool provided by the Secretary of State to perform one of the following:

(a) A ballot-level comparison audit, with a five percent risk limit.

(b) A ballot polling audit, with a five percent risk limit.

Note: Authority cited: Section 12172.5, Government Code; Section 15367, Elections Code.

20113. Audit Initiation

(a) If the audit commences after all validly cast ballot(s) within the jurisdiction have been tabulated, the audit shall be conducted in a single phase as described in section 20121.

(b) If the audit commences before all validly cast ballot(s) within the jurisdiction have been tabulated, it shall be conducted in two phases as described in section 20122.

Note: Authority cited: Section 12172.5, Government Code; Section 15367, Elections Code.

20114. Contests to be Audited

The election official who elects to conduct an RLA in accordance with the requirements of Division 15, Chapter 4, Article 5.5 of the Elections Code shall do so on each contest fully

contained within its jurisdiction's borders, and a partial RLA on each cross-jurisdictional contest partially contained within its jurisdiction's borders.

*Note: Authority cited: Section 12172.5, Government Code; Section 15367, Elections Code.
Reference: Section 15150, Elections Code.*

20115. Audit Board Selection

(a) The elections official shall appoint an audit board(s) to perform the duties specified in section 20123 that meets the following criteria:

(1) Audit boards shall consist of no fewer than three members. At all times, at least one member shall serve as an observer of the audit and may not make determinations of voter choices. At least two members, excluding the observer, shall make determinations of voter choices for each ballot card examined by the audit board. Audit board members may rotate roles.

(2) Audit board members may be comprised of election office full-time or temporary staff, volunteers or a combination of staff and volunteers.

(3) Prior to conducting the audit, each member of an audit board shall complete and sign a declaration of intent to faithfully discharge audit board duties. Each audit board member shall do so in the presence of the elections official on a form provided by the elections official. The elections official shall countersign the declaration. The declaration shall be in the following form:

State of California	}	ss.
County of _____		

I do hereby solemnly declare that I will support the Constitution of the United States and the Constitution of the State of California, and that I will to the best of my ability, faithfully discharge the duties of an audit board member for the election held on _____, 20__.

_____ (Printed Name) _____ (Signature) _____

Signed in the presence of the elections official listed below on _____, 20__.

_____ (Printed Name) _____ (Signature) _____

Elections official name Elections official signature

(4) No fewer than two members of the audit board will be in possession of ballot cards at any time, including during the ballot card retrieval process.

(b) If the elections official appoints multiple audit boards, only one audit board shall evaluate each ballot card.

Note: Authority cited: Section 12172.5, Government Code; Section 15367, Elections Code.

20116. Public Education on Risk-Limiting Audits

(a) Prior to conducting an RLA, the elections official shall provide public notice that includes descriptions of how the process will be conducted, the difference between 1% manual tally and an RLA, and the methods for ensuring ballot security. The elections official shall also provide information regarding the process for selection of their audit boards and procedures used to ascertain voter intent manually.

(b) The Secretary of State shall make the same materials described in (a) above available on its website.

Note: Authority cited: Section 12172.5, Government Code; Section 15367, Elections Code.

20117. Ballot Manifest and Ballot Handling

(a) The elections official shall maintain an accurate ballot manifest, created independent of the voting system. The ballot manifest shall uniquely identify the storage container in which each validly cast ballot card is stored after tabulation.

(b) The format for the ballot manifest shall be in the format required by the RLA software tool in the California Post-Election Risk-Limiting Audit Ballot Manifest Format document dated October 15, 2019, which is hereby incorporated by reference, which the Secretary of State shall post on its website.

(c) If the audit commences after all validly cast ballot(s) have been tabulated, the elections official shall create only one ballot manifest.

(d) If the audit commences before all validly cast ballot(s) have been tabulated, the elections official shall create two ballot manifests, one before each phase of the audit: an initial ballot manifest that includes all ballots that have been tabulated before the first phase of the audit starts, followed by the final ballot manifest including all tabulated ballots.

(e) The content of the initial ballot manifest shall not be changed in the final manifest; accordingly, no ballots shall be added to the containers included in the initial manifest. Instead, the tabulated ballots that are not included in the initial ballot manifest shall be stored in new containers, and the final ballot manifest shall include all the rows in the initial ballot manifest plus a row for each new container.

Example: 1,000,000 ballots were cast in the county, of which 900,000 had been tabulated when the elections official decided to start the first phase of a two-phase audit. The initial ballot manifest includes those 900,000 ballots. Ultimately, 97,000 of the remaining 100,000 ballots are determined to be validly cast. These ballots are tabulated and are stored in new containers. The final ballot manifest consists of the initial ballot manifest plus additional rows that describe the new containers in which these 97,000 ballots are stored, for a total count of 997,000 ballots in the ballot manifest for the second audit phase.

Note: Authority cited: Section 12172.5, Government Code; Section 15367, Elections Code.

20118. Chain of Custody

- (a) The elections official shall maintain and document uninterrupted chain of custody for each ballot card and each ballot storage container. Chain of custody logs should, at a minimum, include an identifying number of each ballot storage container and the number of a tamper-evident seal affixed to each ballot storage container. Chain of custody logs shall be available for public inspection after the canvass of the election pursuant to Division 15, Chapters 2 through 4, of the Elections Code is complete.
- (b) The elections official shall secure and maintain in sealed ballot containers all tabulated ballots.
- (c) The elections official shall establish written procedures to ensure the security, confidentiality, and integrity of any ballots, cast vote records, or any other data collected, stored, or otherwise used pursuant to this section. These procedures shall be published on its website at least five days in advance of the audit.

Note: Authority cited: Section 12172.5, Government Code; Section 15367, Elections Code.

20119. Data Publication Prior to Audit

- (a) When the elections official submits data to the RLA software tool before an audit phase begins they shall also publish the same data on their website before continuing with the audit. The elections official shall also publish any changes made to such data.
- (b) Subject to Elections Code section 2194(a), cast vote record data shall not be posted to the elections official's website, but shall be made available to the public at the location where the audit is being conducted.

*Note: Authority cited: Section 12172.5, Government Code; Section 15367, Elections Code.
Reference: Section 2194, Elections Code.*

20120. Random Seed

- (a) The random seed shall be generated in order by sequential rolls of one or more fair 10-sided dice.
- (b) The random seed shall be generated in a public meeting as follows:
 - (1) The elections official shall give at least five days public notice of this public meeting.
 - (2) The elections official shall randomly select members of the public who attend the meeting to take turns rolling a die, and designate one or more staff members to take turns rolling a die.

(3) In the event that no members of the public attend the meeting, the elections official can designate someone or themselves to roll the die.

(c) After the random seed is generated, the elections official shall provide public notice of the random seed.

(d) The random seed shall be entered into the RLA software tool as provided in sections 20121(d) and 20122(e).

Note: Authority cited: Section 12172.5, Government Code; Section 15367, Elections Code.

20121. Audit Procedures for Single-Phase Audit

(a) The elections official conducting an RLA after all ballots cast within the jurisdiction have been tabulated and reported shall enter the following information into the RLA software tool:

(1) the ballot manifest for all ballot card(s);

(2) the results for all ballot card(s) tabulated; and

(3) if a ballot-level comparison audit is being conducted, the cast vote records for all ballot card(s) tabulated.

(b) If the RLA software tool identifies any inconsistencies in the information entered under subdivision (a), the elections official shall resolve the inconsistencies before the audit proceeds.

(c) After the data have been submitted under subdivisions (a) and (b), the elections official shall generate a random seed pursuant to section 20120.

(d) The elections official shall enter the random seed into the RLA software tool. The RLA software tool will randomly generate a list of particular ballot card(s) or batches of ballot card(s) from the ballot manifest to examine manually.

(e) The elections official may at any point decide to conduct a full manual tally of any contest(s) whose outcomes have not yet been confirmed by the RLA. In the event that the elections official conducts a full manual tally, the RLA of that contest shall be suspended. Such a manual tally shall follow the procedure specified in Elections Code section 15290.

*Note: Authority cited: Section 12172.5, Government Code; Section 15367, Elections Code.
Reference: Section 15290, Elections Code.*

20122. Audit Procedures for Two-Phase Audit

(a) An elections official conducting a two phase audit under subdivision (d) of section 20117 shall do so in accordance with this section.

(b) In the first phase of the audit, the elections official shall enter the following information into the RLA software tool:

- (1) the initial ballot manifest for all ballot card(s) tabulated as described in subdivision (d) of section 20117;
 - (2) the results for all ballot card(s) tabulated that are included in the initial ballot manifest;
 - (3) if a ballot-level comparison audit is being conducted, the cast vote records for all ballot card(s) tabulated that are included in the initial ballot manifest; and
 - (4) the maximum number of ballots to be tabulated.
- (c) If the RLA software tool identifies any inconsistencies in the information entered under subdivision (b), the elections official shall resolve the inconsistencies before the audit proceeds.
- (d) After the data have been submitted under subdivisions (b) and (c), the elections official shall generate the first random seed pursuant to section 20120.
- (e) The elections official shall enter the first random seed into the RLA software tool. The RLA software tool will randomly generate a list of particular ballot card(s) or batches of ballot card(s) from the ballot manifest to examine manually.
- (f) In the second phase of the audit, the elections official shall enter the following information into the RLA software tool:
- (1) the final ballot manifest for all ballot card(s) tabulated as described in subdivision (d) of section 20117;
 - (2) the results for all ballot card(s) tabulated that are included in the final ballot manifest; and
 - (3) if a ballot-level comparison audit is being conducted, the cast vote records for all ballot card(s) tabulated that are included in the final ballot manifest.
- (g) If the RLA software tool identifies any inconsistencies in the information entered under subdivision (f), the elections official shall resolve the inconsistencies before the audit proceeds.
- (h) After the data have been submitted under subdivisions (f) and (g), the elections official shall generate the second random seed pursuant to section 20120.
- (i) The elections official shall enter the second random seed into the RLA software tool. The RLA software tool will identify whether the audit can stop or whether further auditing is required to meet the risk limit. If further auditing is required, the RLA software tool will randomly select additional particular ballot card(s) from the final ballot manifest to be examined manually.
- (j) The elections official may at any point decide to conduct a full manual tally of any contest(s) whose outcomes have not yet been confirmed by the RLA. In the event that the elections official conducts a full manual tally, the RLA of that contest shall be suspended. Such a manual tally shall follow the procedure specified in Elections Code section 15290.

*Note: Authority cited: Section 12172.5, Government Code; Section 15367, Elections Code.
Reference: Section 15290, Elections Code.*

20123. Ballot Retrieval and Manual Examination

- (a) The audit board shall locate and retrieve, or observe the location of and retrieval by elections official or election staff of, each randomly selected ballot card from the appropriate storage container. The audit board shall verify that the seals on the appropriate storage containers are those recorded on the applicable chain of custody log.
- (b) The audit board shall examine each randomly selected ballot card. If the selected ballot card was duplicated prior to tabulation, the audit board shall retrieve the original ballot card and report how the original (rather than the duplicate) was marked.
- (c) The audit board shall interpret voter markings on ballot cards selected for audit in accordance with Elections Code section 15154. If the audit board members cannot unanimously agree on the voter's intent, they shall indicate their disagreement in the final report in section 20125. They shall then notify the elections official of the disagreement, who shall arbitrate the issue. The elections official may:
 - (1) Instruct the audit board members to replace the ballot card with another ballot card, selected at random, that contains the same contests as the previously selected ballot card;
 - (2) Instruct the audit board members to submit to the RLA software tool that no consensus can be reached on the voter choices; or
 - (3) Make a final determination of the voter markings and instruct the audit board to submit the voter markings or choices in all audited contests to the RLA software tool.
- (d) The audit board shall record the voters' choices in every contest on every ballot card selected for audit. Those choices shall be entered into the RLA tool.
- (e) The audit shall continue until the risk limit is met for every contest being audited pursuant to section 20114. If the RLA software tool specifies that further auditing is required to meet the risk limit, it will randomly select additional ballot card(s) from the ballot manifest to be examined manually. The elections official shall retrieve those additional ballot card(s) as described in (a), examine those additional ballot card(s) as described in (b) and (c), and record the voters' choices as described in (d).
- (f) If the elections official chooses to perform a full manual tally of one or more contests, the audits of those contests will be deemed to have met the risk limit and the results of the full manual tally shall be the official results for those contest(s).
- (g) The RLA shall be completed no later than the canvass deadline, as specified by Section 15372 of the Elections Code.

*Note: Authority cited: Section 12172.5, Government Code; Section 15367, Elections Code.
Reference: Sections 15154 and 15360, Elections Code.*

20124. Public Observation and Verification of Audit

- (a) The elections official shall ensure that the audit process is observable and verifiable to the public. The elections official shall:

(1) Provide at least five days public notice prior to the first phase of the RLA. This notice shall include the time and place of the random seed generation described in section 20120 and the date the ballot cards will be retrieved and manually examined.

(2) Describe in writing the process of manually examining ballot cards and the selection of the ballots to be used in the audit.

(3) Provide observers with an oral and/or written explanation of the RLA process, a written code of conduct for observation, and any documentation they will need for informed and effective observation.

(A) The code of conduct for observation shall be determined by the elections official. The code of conduct for observation shall explain the rights and responsibilities of observers.

(B) Documentation needed for informed and effective observation shall include but not be limited to any data the audit relies upon, including the ballot manifest and the cast vote records for ballot-level comparison audits.

(4) Disclose the methods used to select samples and to calculate the risk.

(5) Provide the public the opportunity to observe ballot cards being retrieved and examined during the audit.

(6) Provide the public the opportunity to observe the voters' marks on every audited ballot card during the audit.

(b) Observers can ask questions of the audit board, as long as they do not interfere with the conduct of the audit procedures.

Note: Authority cited: Section 12172.5, Government Code; Section 15367, Elections Code.

20125. Certification of Contest Results and Reporting of Audit Results

(a) The elections official conducting an RLA shall report the results of the audit in the certification of the official canvass of the vote specified by Section 15372 of the Elections Code. The report shall contain the following:

(1) The type of RLA conducted (e.g. ballot comparison or ballot polling);

(2) The date and time the RLA commenced and finished, and the number of rounds of sampling;

(3) A list of contests audited, with final reported results for those contests and the final measured risk for each contest;

(4) A link to the website where the ballot manifest can be found;

(5) The random seed(s) the elections official generated for use with the RLA software tool, and when and how the random seed(s) was generated;

(6) The number of ballot card(s) examined for each contest under audit, noting whether a full manual tally was conducted. If the audit was conducted in stages or continued beyond the

first sample, a description of how the sample was drawn and the number of ballot card(s) selected at each stage.

(7) Notes regarding any ballot card(s) for which the audit board could not determine the voter's intent, as described in subdivision (c) of section 20123;

(8) A link to the website where the list of the particular ballot card(s) examined can be found;

(9) For ballot-level comparison audits:

(A) The number of discrepancies between ballot card(s) and the cast vote record, and a description of each discrepancy; and

(B) A link to the website where the cast vote record file only for the ballot card(s) examined in the audit can be found;

(10) The person-hours required to prepare for the audit, and number of people involved;

(11) The person-hours required to conduct the audit, and number of people involved;

(12) The number of members of the public who observed the audit;

(13) Notes on anything unusual or problematic, or that would be useful to improve the process, or that might be of value to the Secretary of State or other elections officials; and

(14) An attestation from the elections official that the RLA was conducted in accordance with Title 2, Division 7, Chapter 2 of the California Code of Regulations.

(b) The certification of the official canvass of the vote shall be conducted in accordance with Section 15372 of the Elections Code.

(c) The Secretary of State shall publish any report under this section received from an elections official on its website no later than five days after the date it publishes the certification of the official canvass of the vote in accordance with Section 15372 of the Elections Code. This subdivision shall not prohibit the elections official from publishing the same report on its website.

Note: Authority cited: Section 12172.5, Government Code; Section 15367, Elections Code.

20126. Redaction of Personally Identifiable Voter Choices

No later than the third business day following the expiration of the deadline to request a recount under Elections Code sections 15620 or 15621, or the completion of any recount, whichever is later, an elections official who conducted an RLA shall review its cast vote records file that was published and redact from the public record, but not its own files, the voter choices corresponding to any ballot susceptible to being personally identified with an individual voter.

*Note: Authority cited: Section 12172.5 Government Code; Section 15367, Elections Code.
Reference: Sections 15620, 15621 Elections Code.*

California Post-Election Risk-Limiting Audit Ballot Manifest Format

Published by the California Secretary of State (October 15, 2019)

Required Fields

- Batch Name
 - This is the unique identifier that can be used to locate a particular batch of ballots in storage. The actual naming convention doesn't matter as long as each batch is named uniquely, but most jurisdictions choose a descriptive name that indicates which ballots are contained in that particular batch. For example, where each batch encompasses all the Election Day ballots cast in a particular polling place/precinct, the batch name might simply be the name of that polling place/precinct (e.g. "Precinct 101 - Ames Fire Station" or "Ames Fire Station EDay").
 - Depending on how they are processed/stored, there will usually be one or more batches specifically for ballots *not* cast or tabulated at the precinct - e.g. provisional ballots, conditional registration ballots, absentee ballots (overall, per precinct, in batches) etc. Again, these can be named according to whatever makes sense.
- Number of Ballots
 - This field is a count of the individual voted ballot cards contained in each particular batch. Note that this is the number of ballot *cards,* meaning that a two-page ballot counts as 2, not 1. Note also that only voted ballots should be included - spoiled ballots should not.
 - Note that this count cannot be derived solely from the tabulation system; if counts from a tabulator are used, they must be independently validated against another count that is created outside the voting system (e.g. the number of voters who received credit for voting in the precinct, indicated by the voter credit given in the voter file or the counts from an e-pollbook system.)

Optional Fields

- These fields may be included if deemed useful, but are not absolutely necessary.
 - Tabulator ID/Name
 - Storage Box/Envelope/Container ID or name (Note that if this is the only unique identifier for the batch, this should be used for the Batch Name. If the container ID is not unique but could be useful in finding the batch in storage, e.g. where multiple batches are stored in the same box, then it can be included as an additional field.)
 - If a two-step audit is being performed, e.g. an audit beginning prior to all the ballots being counted, a "placeholder batch" that lists the maximum possible ballots that could be counted from the untabulated ballots (e.g. 100% of the untabulated ballots) can be added until the final count is available.

File creation & Formatting

- The ballot manifest files can be created in any spreadsheet program, such as Microsoft Excel. The file should contain:
 - A header row with field names
 - Columns for each piece of data, with "Batch Name" and "Number of Ballots" fields required
- The file should be saved as either a spreadsheet (.xls) or comma-separated-value (.csv) file format

Sample Ballot Manifest

Batch Name	Number of Ballots
Precinct 101	3070
Precinct 102	1863
Precinct 103	1973
Precinct 104	2364
Precinct 201	1614
Precinct 202	2192
Precinct 203	1531
Precinct 204	2274
Precinct 301	1429
Precinct 302	2139
Precinct 303	1283
Precinct 304	894
Precinct 401	788
Precinct 402	2576
Precinct 403	2362
Precinct 404	1508
Precinct 501	2473
Precinct 502	1707
Precinct 503	1717
Precinct 504	1661
Precinct 601	1733
Precinct 602	2054
Precinct 603	2146
Precinct 604	1147
Precinct 701	2432
Precinct 702	1730
Precinct 703	2825
Absentee	5324
Provisional	41