

Re: CA RLA Regulations

Philip B. Stark <stark@stat.berkeley.edu>

Thu 8/5/2021 11:17 AM

To: Kayatta, Taylor <TKayatta@sos.ca.gov>

Cc: Stark, Philip B. <stark@stat.Berkeley.EDU>; Anderson, Robbie <aanderso@sos.ca.gov>; Robinson, NaKeshia <Nakesha.Robinson@sos.ca.gov>; Virginia Vander Roest <ginny@voting.works>; Monica Childers <monica@voting.works>; Bathla, Rajbir <RBathla@sos.ca.gov>

Hi Taylor et al.--

A few questions/comments:

"The cast number of cast vote records shall not exceed the number of ballots physically accounted for in the ballot manifest".

What if it does? Checking whether there are more CVRs than ballots is an important cross check to determine, e.g., whether a batch was scanned twice.

"The elections official shall verify the cast vote records for each contest under audit."

What does that entail? I'm not sure what it means... One important crosscheck is whether the number of CVRs that contain any given contest exceeds the number of participating voters eligible to vote in that contest.

I still don't like the phrase, "seeking strong evidence that the reported tabulation outcome is correct." It implies the audit is trying to *show* the outcome is right, rather than trying to *determine* whether the outcome is right.

The latest version still has the problematic definition, " "Hybrid audit" means a combination of multiple risk-limiting audit types." That is not true. It is one type of RLA that uses two kinds of data, not two types of RLA combined. Same issue with:

"(d) A hybrid audit, combining two or more of the audit types in subdivisions (a) through (c), with a five percent risk limit."

"(3) For ballot-level comparison audits or hybrid audits with a ballot-level comparison audit component is being conducted, the cast vote records for all ballot card(s) tabulated;" --> This has two issues, first, "hybrid audits with a ballot-level comparison audit component" --> "hybrid audits that involve ballot-level comparisons," but it also implies there should be a CVR exported for every ballot, not just those in the stratum that will involve comparisons.

"(3) If a ballot-level comparison audit or a hybrid audit with a ballot-level comparison audit component is being conducted, the cast vote records for all ballot card(s) tabulated that are included in the initial ballot manifest;" -->same two issues.

Same issues with references to "with a batch comparison audit component".

(5) The maximum number of ballots to be tabulated. --> (5) The maximum number of ballots that remain to be tabulated.

Best wishes,
Philip

On Thu, Aug 5, 2021 at 7:40 AM Kayatta, Taylor <TKayatta@sos.ca.gov> wrote:
Ginny, Monica, and Professor Stark,

Please confirm if the changes to the regulations reflected in the attached document work for you. I would like to be prepared to notice the new text in the next few days.

Thanks,

Taylor Kayatta, Attorney
Secretary of State Political Reform Division
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From: Kayatta, Taylor <TKayatta@sos.ca.gov>
Sent: Thursday, July 29, 2021 4:51 PM
To: Stark, Philip B. <stark@stat.Berkeley.EDU>
Cc: Anderson, Robbie <aanderso@sos.ca.gov>; Robinson, NaKesha <Nakesha.Robinson@sos.ca.gov>; Virginia Vander Roest <ginny@voting.works>; Monica Childers <monica@voting.works>; Bathla, Rajbir <RBathla@sos.ca.gov>
Subject: Re: CA RLA Regulations

Good afternoon,

I integrated the changes I promised to make regarding the second random seed as well as Professor Stark's suggested definition updates into the Proposed Regulation Text. I also caught a few small typos, like using the acronym SOS. This version of the text only shows the sections that are proposed to be amended when compared to the entire permanent regulation text (available at: <https://www.sos.ca.gov/administration/regulations/current-regulations/elections/risk-limiting-audits>), and only shows in underline and strikethrough the current round of changes. If you read these sections in combination with the other sections from the permanent regulations, you will see what the new permanent regulations as a whole will look like after this current regulatory action is finalized.

In integrating Professor Stark's definitions into the regulations, I made a few changes. First, I kept the references to statutory definitions when applicable, noting additional information but not restating or modifying the statutory text. Second, I attempted to make the definitions consistent with IRV elections by removing some language that would only work for other election types. I will note that I do not fully understand how a hybrid audit works (I have not seen one in action), so keep that in mind when reviewing the proposed text.

Ginny, Monica, and Professor Stark: Please take a look at this proposed text and let me know if you have any concerns or additional edits. For the hybrid audit type in particular, I want to make sure that this definition is consistent with hybrid audits envisioned by Arlo and is flexible enough to allow for all hybrid audit types - I am concerned that the current definition as written may assume that one of the audit types in the hybrid would have to be a batch comparison when Arlo may allow for other combinations.

One edit to my last email regarding the deadline for finalizing this text. The notice period is actually open until August 5th - not August 2nd. When my office originally noticed this regulatory action, we failed to include all interested parties in our first email and so had to add three days to the notice period to give these additional parties we contacted three days later a full 45 days for review.

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From: Philip B. Stark <stark@stat.berkeley.edu>
Sent: Thursday, July 29, 2021 12:28 PM
To: Kayatta, Taylor <TKayatta@sos.ca.gov>
Cc: Stark, Philip B. <stark@stat.Berkeley.EDU>; Anderson, Robbie <aanderso@sos.ca.gov>; Robinson, NaKeshia <Nakesha.Robinson@sos.ca.gov>; Virginia Vander Roest <ginny@voting.works>; Monica Childers <monica@voting.works>
Subject: Re: CA RLA Regulations

Dear Taylor--

So sorry for the long delay: I had started this right after our call but, um, life.

Thank you very much for this.

Here is my proposed new language, which I'm sure could be improved.

Best wishes,
Philip

(b) "Ballot-level comparison audit" means a type of risk-limiting audit that involves **all three** of the following steps:

(1) **The elections official exports a cast vote record from the voting system for every cast ballot and cast voter verified paper audit trail containing the contest(s) under audit. The voting system must export cast vote records in a way that enables elections officials to find the particular physical ballot or voter-verified paper audit trail associated with each cast vote record.**

(2) The elections official uses an independent system to verify that ~~the~~ cast vote records ~~created by~~ **exported from** the voting system ~~or ballots created independent from the tally or ballot marking system~~ yield the same electoral results as those reported by the voting system **for each contest under audit, and that the number of cast vote records does not exceed the number of ballots physically accounted for in the ballot manifest.**

(3) The elections official compares some or all of those cast vote records to a hand-to-eye, human interpretation of voter markings from the corresponding ballot marked by the voter or the voter verified paper audit trail, as defined by [Section 19271](#) .

(c) "Batch-level comparison audit" means a type of risk-limiting audit that involves **all four** of the following steps:

(1) **The elections official divides the ballots cast in the contests under audit into physically identifiable groups, such as the ballots cast in different precincts or vote**

centers.

(2) The elections official exports vote subtotals from the voting system for each such physically identifiable group of cast ballots.

(3) The elections official uses an independent system to verify that the subtotals created by and exported from the voting system yield the same electoral results as those reported by the voting system for each contest under audit** and that the number of ballots according to those subtotals does not exceed the number of ballots physically accounted for in the ballot manifest.

(4) The elections official compares some or all of those batch-level subtotals to subtotals derived by hand-to-eye, human interpretation of voter markings from the corresponding ballots marked by the voter or the voter verified paper audit trail, as defined by [Section 19271](#).

(d) "Ballot polling audit" means a type of risk-limiting audit in which elections officials ~~examine voter markings on~~ perform a hand-to-eye, human interpretation of voter markings on randomly selected ballots, but do not compare those interpretations to the corresponding cast vote records nor to how the voting system tabulated those ballots. ~~seeking strong evidence that the reported tabulation outcome is correct.~~

(e) "Hybrid audit" means a type of risk-limiting audit that involves the following five steps:

(1) The elections official divides the ballots cast in the contests under audit into physically identifiable groups, such as the ballots cast in different precincts or vote centers or ballots processed by different voting equipment.**

(2) The elections official exports vote subtotals or cast vote records from the voting system for some of those groups of cast ballots and exports, at a minimum, aggregate results for the remaining groups of ballots.

(3) The elections official uses an independent system to verify that the subtotals created by and exported from the voting system, together with the aggregate results for the remaining groups, yield the same electoral results as those reported by the voting system for each contest under audit.**

(4) The elections official compares some or all of those batch-level tabulations or cast vote records to a tabulation or interpretation derived by hand-to-eye, human interpretation of voter markings from the corresponding ballots marked by the voter or the voter verified paper audit trail, as defined by [Section 19271](#).

(5) The elections official examines some or all of the ballots in the remaining groups and perform a hand-to-eye, human interpretation of voter markings from the corresponding ballots marked by the voter or the voter verified paper audit trail, as defined by [Section 19271](#), but does not compare those interpretations to the voting system interpretations of or tabulations of the same ballots.

****Note:** This doesn't work for IRV unless the "batch level" results are counts of the number of ballots that have each set of rankings. For instance, it isn't enough to say 1000 voters ranked Alice first, 900 ranked Bob first, 600 ranked Charlie first, 800 ranked Alice second, 800 ranked Bob second, 300 ranked Charlie second, etc. In general, it's necessary to know how many ranked Alice first and Bob second and Charlie 3rd, and how many ranked Bob first and Alice second and Charlie third, etc.

On Thu, Jul 1, 2021 at 9:25 AM Kayatta, Taylor <TKayatta@sos.ca.gov> wrote:

Good morning,

This email will summarize our conversation today and outline next steps for this regulations package.

The purpose of this current regulatory effort is to consolidate the permanent RLA regulations and the emergency regulations that we enacted after revising the RLA laws, making the emergency regulations permanent with some additional updates based on what we've learned over the past few months of conducting the audits. The permanent regulations remain fully in effect unless they are modified by the current package. The permanent regulations are at: <https://www.sos.ca.gov/administration/regulations/current-regulations/elections/risk-limiting-audits>. The current action shows what changes are made to those permanent regulations, which includes changes we made in the emergency regulations as well as some new changes. The proposed changes to the permanent regulations are at: <https://admin.cdn.sos.ca.gov/regulations/proposed/elections/audits/risk-limiting-audit-text.pdf>. As I mentioned, when we go back out for additional public notice I will include the full RLA regulation text (including permanent regulation sections that are not revised) for full context.

We discussed the definition of "random seed," which has not been changed since we originally enacted our regulations. I agreed that we can update that definition as follows (new text underlined): "Random seed" means a randomly generated number consisting of at least 20 digits that is used to generate a random number sequence to select ballot cards for audit.

I agreed to add back the concept of a second random seed that I had removed from the emergency regulations in Sections 20122. I had removed those based on the mistaken understanding that Arlo did not use a second random seed. I agree that we need a second random seed to ensure additional ballots that were not under the control of the county elections official at the time of the original random seed generation are randomly selected and cannot be predicted by bad actors.

Professor Stark, you agreed to propose new text for the definitions of "batch comparison audit" and "hybrid audit." After you send your text, we can work together to finalize that language. Professor, you also said you would look at possibly revisiting the definitions of "ballot-polling audit" and "ballot-level comparison audit." For these last two definitions, the regulations currently refer to statutory definitions, so if you propose any additional language the idea would be that it expands on those statutory definitions rather than replacing them.

Our current 45-day public comment period ends on August 2nd. My plan is for us to finalize our edits before that so that I can go out for an additional 15-day public comment with the revised text we agree on as close to August 2nd as possible.

Thanks again!



Taylor William Kayatta

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Political Reform Division

California Secretary of State

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-----Original Appointment-----

From: Kayatta, Taylor <TKayatta@sos.ca.gov>

Sent: Monday, June 28, 2021 12:15 PM

To: Kayatta, Taylor; Stark, Philip B.; Anderson, Robbie; Robinson, NaKasha; Virginia Vander Roest; Monica Childers

Subject: CA RLA Regulations

When: Thursday, July 1, 2021 8:30 AM-9:30 AM (UTC-08:00) Pacific Time (US & Canada).

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