June 30, 2023

The Honorable Shirley Weber
California Secretary of State
1500 11th St., 6th Floor
Sacramento, CA 95814
Submitted via email to Danielle Dawson, ddawson@sos.ca.gov

Re: Proposed Regulatory Action Regarding Ballot Counting

Dear Secretary Weber:

The California Voter Foundation, Verified Voting Foundation, The Brennan Center for Justice at New York University School of Law, and California Common Cause are nonprofit, nonpartisan 501(c)(3) organizations with long histories of involvement advancing election security, verifiable election results and voter access. Representatives from our organizations have studied the proposed Ballot Counting and One Percent Manual Tally regulations produced by your office and released[1] on May 19th and submit the following comments and suggestions for your consideration.

We appreciate the attention your office has put into the production of these regulations and the importance of providing clear guidance to local election officials and voters alike regarding the ballot counting process.

The practice of manually examining paper ballots in order to verify software-counted election results is essential in order for the public to have confidence in the accuracy of vote counts.

We recommend strengthening and improving the current process in a number of ways to further increase public confidence in the accuracy of election results, including:

1. Requiring counties to report the results of their post-election audits and for these reports to be published on the Secretary of State's website;
2. Requiring counties to explain any discrepancies encountered during the post-election audit and how they were resolved;
3. Ensuring the regulations governing the ballot counting process are clear and kept up to date;
4. Establishing a ballot reconciliation process; and
5. Establishing a "chain of custody" definition.

We were pleased to see the first two of these recommendations already included in the draft One Percent Manual Tally regulations and support their inclusion. However, the draft regulations do not include a process to keep track of every used and unused ballot. Therefore, we recommend that manual tally plans include a ballot reconciliation process detailing how elections officials will keep track of each ballot printed or issued to each voter. Further, we suggest below a definition for "chain of custody" that can help increase public confidence in the vote counting process. Finally, we also ask your office to commit to revisiting these regulations in the near future and provide additional time and opportunity for public engagement in this important process, especially if legislation currently being considered (AB 969) becomes law.[2]

While we support manually examining paper ballots to verify software vote counts as well as the development of these regulations, we are deeply concerned that relying *solely* on hand-counting ballots to tally election results in any but the smallest jurisdictions will not receive the level of assurance necessary to ensure *equal treatment of voters' votes*. The few recent U.S. elections where hand tallying was used to count votes shows the risks associated with such an approach:

- In Nye County, Nevada last November, the local election official estimated the hand count resulted in a 25% error rate during the initial stages of the process.[3] His team of 215 volunteers was unable to complete the hand count by the State's certification deadline, after which ballots were required to be placed in secure storage.[4]

- In Baxter County, Arkansas in May 2023, a recount of a local contest found the votes tabulated using the county's certified voting system were accurately counted while the hand-counted ballot totals were off by 3%.[5]

- In Maricopa County, Arizona, according to an investigation conducted by the Arizona Republic newspaper, the firm hired to conduct a hand count "audit" of that county's November 2020 presidential election votes had no plan or method for cumulating the vote totals. Text messages obtained by the news organization through a public records act request reveal the challenge, frustration and doubts the auditors had about the reliability of the process they had undertaken.[6]

- In Osage County, Missouri, the experience conducting a hand count of the April 2023 municipal election led the county clerk there to conclude, "if we were to continue hand counting it would cost us more in time, money, losing volunteers, and accuracy of votes."[7]

With the experiences of other jurisdictions in mind, we suggest additional components to include as well as edits to the proposed Ballot Counting and One Percent Manual Tally regulations.

Comments on Proposed Ballot Counting Regulations

1) Add a definition for "Chain of Custody" (20281)

The draft regulations cite "chain of custody" in several places but no definition is provided. We suggest a definition based on one the National Institute of Standards and Technology (NIST) provides[8], to read:

> "A process such as that described in the Election Assistance Commission's July 13, 2021 Best Practices: Chain of Custody report[9] that provides continuous security through tracking the movement of voting equipment and voted ballots through the collection, safeguarding, and analysis lifecycle by documenting each person who handled the equipment and ballots, the date/time it was collected or transferred, and the purpose for the transfer."

2) General Provisions (20298)

The draft regulations do not include a process to keep track of every used and unused ballot. We recommend that a ballot reconciliation process be added to require elections officials to record the number of ballots sent to each location for hand-marked ballots. A reconciliation process should include steps elections officials take before voting, during voting, and at the end of voting.

3) Manual Tally Plan requirement and publicity (20299)

We propose the following changes:

a) In (a), require a county conducting a manual tally to make its plan available to the public at the same time it is submitted to the Secretary of State.

b) In (a), provide an exception to the 120-day submission requirement in the case of a special or recall election.

c) In (c) (2), change the wording from "the provided requirements *lack sufficient detail* to fully describe each element" to "the provided requirements *fail to fully* describe each element."

d) In (c) (4), change the wording from "The Manual Tally Plan *is insufficient* to ensure that the elections official will be able to comply with state or federal law" to "The Manual Tally Plan *fails to* ensure that the elections official will be able to fully comply with state or federal law."

e) In (e)(1), require the Manual Tally Plan to be posted in the elections office at least one week in advance of Election Day.

f) In (e)(1), strike the "if available" language regarding county election websites (every county has a website).

g) In (e)(2), require status updates to the Secretary of State to be posted in the elections office and on the county's election website.

h) In (e)(2), require that status updates to the Secretary of State include updates on the hiring status of personnel needed to conduct the manual tally.

i) In (f)(5), require the plan to include the specific number of personnel required for each function in the manual tally process.

j) In (f)(10), require the plan's description of how it will work in conjunction with the use of a voting system to include the imaging of each ballot and adding a serial number to each ballot.

4) Conducting a Manual Tally (20303)

We support provisions (a)(1) and (a)(2) requiring serial numbers be printed on each ballot to be manually tallied and capturing an image of each ballot before manual tabulation in order to protect ballots from potential tampering and, should tampering or significant degradation of paper occur during handling by potentially dozens of people, enable the election official to rely on the captured ballot image for counting.

We also propose the following changes:

a) Every election there are ballots cast on which voters' marks are not clear. These ballots are reviewed and duplicated in order to be accurately read by ballot tabulators. In a manual tally system, this process will need to be replicated and the proposed regulations do not specify how or when ballot adjudication will occur. This process should be added to Section 20303 as one of the tasks an election official must complete before undertaking the manual tally.

b) In (i), specify that "the election official shall use the process described in the manual tally plan to review and resolve the discrepancy".

c) In (l)(2), specify ballots "shall be resecured per (a)(5)(A) above".

5) Provide better tools and direction for cumulating ballot counts (20304)

We are concerned about the lack of specificity in how the cumulating boards will accurately tabulate the results from the counting boards. It would be helpful if the regulations gave more direction for how cumulating without a calculator or the use of Microsoft Excel should occur. The Manual Tally Plan should also be required to include a description of how this will work.

The experience in Maricopa County highlights the importance of thinking through the process for cumulating ballot counts. The proposed regulations do not permit the use of Excel or calculators so it is unclear how cumulation will be achieved. It may be possible for a county's certified voting system to be used as an adding machine or for an open source calculator to be used; however, utilizing this kind of functionality will require input from vendors and guidance from the Secretary of State.

6) Auditing the Manual Tally (20305)

We support (a), the provision requiring a certified voting system tabulator be used to verify the accuracy of manually-tallied vote totals, as well as (b) outlining the steps that must be taken if approval of a Manual Tally Plan is revoked or the plan's completion is determined infeasible by the elections official.

6) Observing the Manual Tally (20307)

In (a), we urge you to include a provision that enables the public to check the accuracy of the cumulating board's work by requiring counties conducting manual tallies to provide the counting boards' vote counts on their website so the public can verify the cumulating board is properly totaling the vote counts. For instance (additions bolded):

(a) When conducting a manual tally pursuant to paragraph (1) of subsection (a) of section 20298, any person may observe the manual tally proceedings, **including the proceedings of the cumulation board,** subject to space limitations of the manual tally location selected by the elections official pursuant to section 20299. **The elections official shall provide a means for either in-person or offsite observers to check the accuracy of the cumulating board's calculations.**

Comments on Proposed One Percent Manual Tally Regulations

1) Selection of Ballots to Tally (20313)

The random selection of precincts to be recounted for the One Percent Manual Tally is an essential component of the verification process; it needs to be truly random and also observable by the public as truly random in order for this verification process to both be valid and be perceived as valid. Therefore, we urge you to remove provisions (b)(2)(A) and (b)(2)(D) permitting the use of Microsoft Excel or other software to generate random numbers. Excel is a proprietary software program not subject to testing and certification and as such should not be permitted to be used for this purpose. Such methods impede the public's ability to verify that the random sample is fairly generated. As the regulations describe in (a)(1) and (2)(B), there are other approaches to randomly selecting precincts to audit that are far more transparent and less susceptible to manipulation or the appearance of manipulation.

It is still critical to note that these low-tech tools for random selection – ten sided dice and picking numbers out of a hat - while preferred, still must be used in a way that assures all precincts have an equal chance of being selected. As currently drafted, (b)(2)(B) and (b)(2)(C) do not accomplish this. Please see the attached appendix prepared by Verified Voting Foundation for further discussion of how these approaches should be improved to guarantee all precincts have an equal chance of being selected.

2) Reporting of Results (20315)

We strongly support (a), requiring all counties report the results of their One Percent Manual Tally in the certification of the official canvass; (b)(12), requiring reporting of discrepancies and how they were resolved; and (c), requiring the Secretary of State to publish these reports on the agency's website no later than ten days after the certification of the official results is published. Requiring this reporting and centralizing public access to it through the Secretary of State's website are important provisions that will help ensure timely access to official reporting on the ballot counting verification process.

Thank you for taking our comments into consideration.

Sincerely,

Kim Alexander, President
California Voter Foundation

Pamela Smith, President
Verified Voting Foundation

Gowri Ramachandran, Senior Counsel, Democracy
Brennan Center for Justice

Russia Chavis Cardenas, Voting Rights & Redistricting Program Manager
California Common Cause

Cc: Susan Lapsley, Deputy Secretary of State, HAVA Director and Counsel
       NaKesha Robinson, Office of Voting Systems Technology Assessment
       Erric Garris, Deputy Secretary of State, Legislative Affairs

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[1] California Secretary of State, Proposed Regulatory Action Regarding Ballot Counting (proposed May 19, 2023), https://admin.cdn.sos.ca.gov/regulations/proposed/elections/voting-/text-of-prop-regs-ballot-count.pdf.
[2] A.B. 969, 2023–2024 Leg., (Cal. 2023), https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=202320240AB969.
[3] Brett Forrest, "*Nye County clerk tempers hand count expectations, calls it a 'test'*, news3lv.com (Nov. 12, 2022), https://news3lv.com/news/local/nye-county-clerk-tempers-hand-count-expectations-calls-it-a-test.

[4] Presentation Slides, Nye County Commission Meeting 11-12 (Jan. 18, 2023), available at https://www.nyecountynv.gov/DocumentCenter/View/42686/Item9 (stating that although 20,890 voters turned out in the election, only 17,700 ballots were ultimately hand counted).

[5] Chris Fulton, "*May 9 election recount reveals county machines to be accurate, three percent human error when hand counting*,", Mountain Home Observer (May 17, 2023), https://mhobserver.com/may-9-election-recount-reveals-county-machines-to-be-accurate-three-percent-human-error-when-hand-counting/.

[6] Robert Anglen, "*'Our numbers are screwy': Cyber Ninjas CEO admits he couldn't tally hand count of Arizona ballots*," The Arizona Republic (June 6, 2023), https://www.azcentral.com/story/news/politics/elections/2023/06/06/cyber-ninjas-ceo-admits-he-could-not-tally-hand-count-of-arizona-ballots/70263339007/.

[7] Nicci Kammerich, "*Osage County, Missouri – Hand Count vs. Machine Tabulation*," (June 2023), available at https://anewscafe.com/wp-content/uploads/2023/06/OsageCountyApril2023.docx.

[8] Computer Security Resource Center, National Institute of Standards and Technology, https://csrc.nist.gov/glossary/term/chain_of_custody (last visited June 29, 2023)("chain of custody").

[9] See Best Practices: Chain of Custody, U.S. Election Assistance Commission (July 13, 2021), https://www.eac.gov/sites/default/files/bestpractices/Chain_of_Custody_Best_Practices.pdf.

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APPENDIX (Prepared by Verified Voting Foundation)

Comments on Proposed § 20313. Selection of Ballots to Tally[1]

The method of randomly selecting precincts or batches for the 1% manual tally can substantially affect the soundness and credibility of the procedure. A sound method should convince reasonable observers that the sample is fair—that every precinct or batch had an equal chance of being selected.

Method (1), in which each precinct or batch is represented by an "identical, labeled object" and the election official chooses objects at random, is a valid method, but observers may struggle to verify that all the labels are correct and the selection is fair.

Method (2), in which the precincts or batches are enumerated (listed and numbered) and then random numbers are used to select among them, is valid in concept, but each of the four specific implementation alternatives has problems.

- Options (A) and (D) rely on "random" number functions in a spreadsheet program such as Microsoft Excel or (for (A)) some other "random number generator." With these approaches, it is impractical or very difficult for observers to verify that the random sample is fairly generated.
- Options (B) and (C) use a 10-sided die or equivalent slips of paper to generate one digit at a time. In the example given, there are 123 precincts; the first (hundreds) digit is generated (either 0 or 1), followed by the tens digit, followed by the unit digit. These methods are inadmissible because they do not provide an equal probability of selection. For instance, in the example, the first digit is equally likely to be 0 or 1, so the procedure is equally likely to select one of the precincts 1 through 99 *or* one of the precincts 100 through 123. This means that the higher-numbered precincts are about four times as likely to be selected as the lower-numbered precincts.

In (A) below, we suggest a method functionally equivalent to the valid and observable approach presented by Arel Cordero, David Wagner, and David Dill in 2006:[2]

(2) The elections official creates a list of precincts and batches of vote-by-mail ballots; sequentially numbers that list; and then identifies which item(s) (precinct or batch of vote-by-mail ballots) to tally through one of the following methods:

    (A) Choose a power of 10 (such as 10, 100, or 1,000) that is larger than the total number of items. Divide that value by the total number of items and round

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[1] California Secretary of State, Proposed Regulatory Action Regarding Ballot Counting 20–21 (proposed May 19, 2023), https://admin.cdn.sos.ca.gov/regulations/proposed/elections/voting-systems/text-of-prop-regs-ballot-count.pdf.

[2] *See generally* Arel Cordero, David Wagner & David Dill, *The Role of Dice in Election Audits — Extended Abstract* (June 16, 2006), https://people.eecs.berkeley.edu/~daw/papers/dice-wote06.pdf.

down to obtain a divisor. Roll one or more fair ten-sided dice, one at a time, to generate each digit of a random number. (For instance, if 100 is chosen, roll two dice, for the tens place followed by the units place.) Divide that random number by the divisor, round down, and add 1 to obtain the number of the item to tally. If the result is not a valid item number, roll again until you obtain a valid item number. Continue rolling to obtain item numbers as many times as necessary.

For example, if there are 123 precincts: The power of 10 can be 1,000; 1,000 / 123 = 8.13, so the divisor will be 8. Roll three ten-sided dice one at a time (or one die three times) to obtain a number between 0 and 999. Suppose you roll 247: 247 / 8 = 30.875, which rounds down to 30; adding 1, the item number is 31. (If you roll 993, you would calculate 993 / 8 = 124.125, which rounds down to 124, so the item number would be 125. That is not a valid item number, so you would roll again.)[3]

(B) Rather than calculate a divisor as in option (A), simply roll an appropriate number of fair ten-sided dice (or one ten-sided die the appropriate number of times) to obtain an item number; if the number is not valid, roll again. For instance, if there are 84 items, the official can roll two dice and treat any roll between 01 and 84 as a valid item number.

(C) In the event that ten-sided dice are unavailable, use either option (A) or option (B) above, except that in lieu of dice, use ten identical objects labeled 0 through 9, repeatedly shuffling the objects and then selecting one at random as described in subsection 1.

In our view, (C) is best treated as a last resort if ten-sided dice are unexpectedly unavailable. These dice can be obtained very inexpensively, and avoid many pitfalls associated with alternatives such as slips of paper.

We note that as described by Cordero, Wagner, and Dill, option (A) assigns an equal *range* of numbers to each item. For instance, in the example, any roll between 000 and 007 corresponds to item 1; any roll between 008 and 015 corresponds to item 2; and so on. Local officials may use a spreadsheet to calculate these ranges, and can share this spreadsheet with observers to document the correspondence between die rolls and items. Such a spreadsheet in no way alters how option (A) works, only how it is documented.

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[3] It may be useful to choose a larger power of 10 than is necessary. For instance, if you have 52 precincts, you could choose 100; 100 / 52 = 1.923, so the divisor would be 1. In this scenario, you may have to roll several times before obtaining a valid item number. You may prefer to choose 1,000; 1,000 / 52 = 19.23, so the divisor would be 19. In this case, it is very likely that your first roll will produce a valid item number.