

**From:** [Neal McBurnett](#)  
**To:** [SoS Rulemaking](#)  
**Subject:** [EXTERNAL] Comment on Elections Rulemaking Hearing 3/7/2023  
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Re: Elections Rulemaking Hearing 3/7/2023

[https://www.coloradosos.gov/pubs/rule\\_making/hearings/2023/ElectionRulesHearing20230307.html](https://www.coloradosos.gov/pubs/rule_making/hearings/2023/ElectionRulesHearing20230307.html)

Thank you for the invitation to follow up in writing to supplement my spoken testimony last week.

As requested, here is more information on a recent example of a jurisdiction that published an incorrect tabulation of a ranked-choice contest. In this case it was for an instant-runoff race, aka single-winner RCV, in Alameda County California. Not only did they compute the tabulation incorrectly, and get the wrong outcome, but they certified that incorrect result. After being told of their mistake, and a lawsuit, a court ruled that they could change the outcome. That is clearly not something we want to repeat.

Read more at "Oakland ranked choice voting fiasco finally resolved with judge's ruling"

<https://www.mercurynews.com/2023/03/08/oakland-ranked-choice-voting-fiasco-finally-resolved-with-judges-ruling/>

This failure underscores the need to be extra careful with the famously delicate problem of tabulating ranked-choice contests.

There are a host of pitfalls that require exacting adherence to the relevant definitions, statutes, rules, configuration settings, software implementations, voter instructions and administration of the election in general. One skillful and knowledgeable source with vast experience with these issues around the world told me that he has *\*never\** found an implementation of ranked-choice tabulation which did actually satisfy all the requirements of the relevant rules and regulations. That's sobering! It's really complicated!

The only way to convince the public that the outcome is correct is to publish all the relevant cast-vote records, and explain how to exactly replicate the official round-by-round tabulation. For complicated reasons, Colorado has a history of failing to publish cast-vote records before the audit, and of not always releasing the exact set of CVRs that was tabulated. That failure is already a problem for our risk-limiting audits. It absolutely must be remedied in order to give the public the evidence they need, especially for ranked-choice contests.

Furthermore, the CVRs must be published in a standards-compliant format along with documentation which makes it easy for the public to feed them in to the tabulation program of their choice to check the results. Data provided in PDF format is typically nearly useless or far too hard to work with.

Public confidence is also eroded when we can't see early results, and far too many jurisdictions deny access to preliminary tabulations, sparking distrust due to an opaque procedure. So contest results must be reported to the public starting on election night, even though that requires upgrades to the election-night reporting system.

As noted above, those tabulations must be verified by the public via transparent implementations they trust, and Dominion's implementation is unfortunately not disclosed to the public. So when tabulations are released, the

cast-vote records must be released at the same time.

San Francisco demonstrates that these requirements are not unreasonable: they publish both tabulations and cast-vote records regularly. See their 16 periodic reports on the 2022 general election at

<https://sfelections.sfgov.org/november-8-2022-election-results-detailed-reports>

It includes the necessary data in multiple formats, including text, XML, Excel and PDF.

The principle failing of their data is that the CVRs are only provided in JSON format. That format is important since it is the original, official record. But it is very cumbersome and not as well documented as we need, and the detailed reports, even in Excel format, are also not in a standard format, or well suited to automated processing and comparison.

Another problem is the misleading way in which San Francisco's Dominion results present the percentages of votes by candidate. As with all forms of voting, it is important to present the public with an accounting of how all the ballots were interpreted, and to compare the final outcome to the set of all ballots for the contest. Some of those ballots will be blank for the contest. If that number is unusually large, it may indicate a problem with ballot design. Blank contest data must be reported to the public. Most ballots will have at least one valid ranking for a candidate, and should be reported as ballots that were initially active. The final vote totals for each candidate should be reported as a percentage of both the total number of ballots for the contest (for election integrity reasons), as a percentage of the originally active ballots (since all voters who expressed a preference should be properly recognized), and as a percentage of the active ballots which remain (to demonstrate e.g. that the final winner gets more than 50% of at least the number of ballots active in the final round).

This also helps the public understand, as it has been known for decades, that an IRV winner may not in fact end up with over 50% of the original number of active ballots. That is in fact impossible for any voting method, as explained at The Majority Illusion: What Voting Methods Can and Cannot Do -

<https://electionscience.org/commentary-analysis/the-majority-illusion-what-voting-methods-can-and-cannot-do/>

In fact, in examining 96 ranked-choice voting race from across the country where additional rounds of tabulation were necessary to declare a winner, The Maine Heritage Policy Center concludes that 61 percent of the time, the eventual winner failed to receive a true majority of the original number of active votes. See A False Majority from the Maine Heritage Policy Center

- <https://mainepolicy.org/wp-content/uploads/RCV-Final-Booklet-.pdf>

It would be better for the jurisdictions to use some open-source software (such as RCTab: <https://www.rcvresources.org/rctab>) to generate tabulations which are easier for the public to check, and with improved output and sharing formats.

The rules should eliminate the bizarre notion of publishing summary tabulations, round-by-round, for each precinct. Since they typically don't match the overall result, and can't be processed to even figure out the overall result, they just add confusion and overhead.

The draft rules drop all details on how to audit the contests. This must be remedied. Colorado must adopt proper rules for auditing the CVRs and tabulations. At a minimum we should require use of available (open-source!) code for doing an RLA of the tabulation, as has been done in SF. Again, the far higher complexity of IRV requires more scrutiny, rather than less.

In addition, the Logic and Accuracy test must be designed to ensure that:

\* the ballot programming is correct for every contest, every style, every candidate and every ranking.

\* the system is correctly configured to handle every aspect of the governing statutes and rules.

For example, the LAT test deck must include samples of both valid and invalid write-in ranking, examples of skipped rankings, examples of skipped write-in rankings (both valid and invalid), etc.

In order to test the transparency and audit procedures, the LAT must include a dry run of them based on the votes included in the LAT. That must include publishing the CVRs and manifests from the LAT so the public can also see how to set up an audit with that data.

A variety of jurisdictions in Colorado continue to consider adopting single-transferable vote (STV, the proper form of multi-winner RCV) in order to achieve proportional representation on councils, school boards and other multi-member bodies.

The rules should be written to apply equally well to STV whenever feasible, to avoid the need for unnecessary rulemaking procedures in the future.

Finally, it is also important to note a variety of other confusions about how IRV works. None of these claims are true:

- \* You can always support your favorite without worry
- \* Your second choice will come into play if your first choice can't win
- \* The winner will always get a majority

The details are explained in this article from the Center for Election Science, which illustrates how they were all false in the recent Alaska Special Election for US Representative:

RCV Fools Palin Voters into Electing a Progressive Democrat

<https://electionscience.org/commentary-analysis/rcv-fools-palin-voters-into-electing-a-progressive-democrat/>

So it is important that the rules and educational materials developed for voters casting ranked ballots not make these mistaken claims. IRV certainly fixes some of the problems of plurality voting, but it does not even fix the spoiler problem, since even in Alaska we saw a "center squeeze" failure in which Nick Begich, who was eliminated before the final round, was actually preferred by the voters in head-to-head comparisons over each of the finalists.

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Neal McBurnett

<http://neal.mcburnett.org/>