

Subject: Comment on SF VSTF Report, January 2011 Draft

From: David Cary

To: voting.systems.task.force

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First, thanks to the members of the Voting System Task Force for the time and effort you have volunteered to create this report and to advance the best practices and the public understanding of issues surrounding voting systems. I look forward to your final report.

Second, I offer some contextual remarks, which extend somewhat beyond the task force's defined scope. All Americans deserve more trustworthy elections. That requires change and innovation. It is wonderful to see San Francisco's efforts in leading those changes. It is also important that America improve the political effectiveness of its voting processes. Too often, legal and technological features of our voting processes result in direct or indirect limitations that systemically suppress the options offered to voters, the ability of voters to select from the options that are presented, and the effectiveness in which those selections are aggregated into an election result. More fully empowering voters also requires change and innovation. San Francisco has been a leader in that effort as well by adopting Ranked Choice Voting (RCV). It is important to advance these and other aspects of electoral reform, and to do so concurrently on multiple fronts

as much as possible. It is important to build on the synergies of multiple initiatives. I applaud the extent to which the task force has done so with its work.

Third, the following are comments about the task force's draft report:

1. Be vigilant that specific recommendations are supported and explained in the body of the report. Where they are not, either add adequate supporting material or reconsider whether the recommendation is important enough to be retained. An example is recommendation 11 in the auditing section of Section 2 (p. 14, line 14):

11-Announce an acquisition preference for voting systems that allow individual voters to verify their cast votes after the election and independently check the vote tally.

This recommendation is discussed little, if at all, in the body of the report. It is unclear what an implementation of this recommendation might involve, or what issues the task force has considered in making this recommendation.

Another example is recommendations 4 (p. 13, line 28) and 7 (p. 14, line 2) of the same section:

4-Permit academic organizations to publicly request and obtain timely access to the paper ballots for the sole purpose of digitally scanning the ballots and analyzing the scanned images to independently verify election results, and to publish their findings from such verification.

7-Consider broadening the audience with access in recommendations 4 and 5 to include other organizations that serve the public interest, or all members of the public, under conditions that limit conflicts of interest, protect voter privacy, and discourage vote-selling.

From the body of the report it is not clear why these are separate recommendations or why

recommendation 7 is not also a near-term recommendation. While the academic support for voting system review and innovations has been commendable, academia has not been the sole source of such innovations, the Humboldt Election Transparency Project being a prime example.

2. Restore the use of risk-limiting audits for RCV elections (recommendation 12, p. 14, line 16), at least on a pilot basis, to its status as a near-term recommendation. As a long-term recommendation, the report is encouraging deferral of this for years. With this as a near-term recommendation, San Francisco as a leader in the use of RCV could immediately begin to define and plan the use of risk-limiting audits of RCV elections. There do not appear to be significant technical barriers in adapting to RCV any of several risk-limiting audit procedures available for plurality elections. If there are reasons why the task force does not see this as viable, the reasons for that view should be explained in the report.

3. Clarify recommendations 1A and 1B (p 13, lines 10-15) of the auditing section as they apply to RCV contests. Those recommendations deal with publishing election results on election night. For RCV contests, recommendation 1A as written might be interpreted to mean:

- a) the tallies of each preference level treated as a separate election
- b) the full RCV tabulation algorithm, applied to the combination of all precincts collected so far
- c) the full RCV tabulation algorithm, applied to each precinct individually and separately
- d) some combination of a-c

In addition, even the latest version of EML, committee specification 6.0, does not adequately support RCV in reporting round-by-round results.

Current practice on election night is to publish the equivalent of option b) for non-RCV contests and only the first choice preferences of option a) for RCV contests, all without using EML or an equivalent format. For RCV contests, the items covered by option b) and by recommendation 1B are first published only several days after election day.

I encourage the task force to not encourage the use of option c), if recommendation 3 (p. 13, line 24) is implemented.

I encourage the task force to clarify these recommendations as they apply to RCV contests to at least include:

-- Publish on election night the tallies of each preference level, treated as a separate election, to the extent that those totals continue to be published at the polling place and are or can be used to partially verify the transfer of scanned ballots to a central processing operation. As soon as practical, implement and use the capability to publish those results using EML or an equivalent format. Use another format until then.

-- Publish on election night results of the full RCV tabulation algorithm, applied to the combination of all precincts collected so far. As soon as practical, implement and use the capability to publish those round-by-round results using EML or an equivalent format. Use another format until then. Note: running a full RCV tabulation should only take a few minutes at most, from a technical perspective.

-- Publish on election night the text files of cast ballot records, regardless of the implemented ability or practice of publishing other RCV results.

In particular, those improved practices of published disclosures that can be implemented for the next election should be. Those that may require software changes, system recertification, or that involve other implementation delays should be implemented as soon as practical, but should not delay the implementation of what can be done right away.

To the extent that part of the goal of recommendation 1A is to publish as soon as possible the audit targets to be used with recommendation 3 (see next item), for RCV contests, the practice of early auditing needs to be accounted for. Early auditing involves auditing some audit units while other audit units are still being initially processed and counted and might change the contest elimination order.

4. Recommendation 3 (p. 13, line 24) is a worthwhile improvement to the audit procedure. The discussion supporting that recommendation could acknowledge that the current counting practices offer an important level of screening for errors, especially random or inadvertent errors, while also highlighting the deficiencies, especially against coordinated, fraudulent interventions. Likewise, it should be noted that the adoption of recommendation 3 will still not assure that the vote tabulation is accurate, as long as only 1% of precincts are counted without the use of risk-limiting audits.

It is also possible that with risk-limiting audits, alternatives to recommendation 3 might be used instead. In particular, as Chris Jerdonek first discussed with the task force, it might be preferable to verify all rankings for each of the ballots in an audit unit, rather using only a portion of the rankings while tabulating the audit unit for a specific elimination order. Such a verification method implements a modular approach to auditing. Once the rankings are verified, auditing could allow the tabulation logic to be verified by computers, including tabulation verifications done by the public using a variety of independent, widely available, open-source software. Some advantages of this modular approach include that it may require less human effort and it is independent of the elimination order. Independence of the elimination order allows early auditing to be done for some audit units, even while the initial counting of other audit units is still underway and the final, official elimination order is still subject to change.

5. It would be worthwhile to note that effective post-election auditing in a broad sense is required and should include more than just the direct verification of how ballots are counted. It should review other areas that include both automated and human processes and procedures, the integrity of which are often assumed to be intact in order for a risk-limiting audit to deliver on its promise.

Again, thanks for your efforts and accomplishments.

-- David Cary