

Citizens' Oversight Projects (COPs)

771 Jamacha Rd #148
El Cajon, CA 92019
CitizensOversight.org

June 15, 2021

Senator Karen Fann, President
Arizona State Senate
Capitol Complex
1700 West Washington
Phoenix, AZ 85007-2890

cc: Ken Bennett, Randy Pullen

Subject: Maricopa County Ballot Image Audit

Dear Senator Fann:

Our organization has been in discussion with Ken Bennett and Randy Pullen to hopefully reach agreement to perform a ballot image audit of the recent 2020 General Election in Maricopa County, AZ. Although we are supportive of the hand count of the ballots due to the extremely close statewide margin of only 0.31%, we believe that including a ballot image audit is essential for the reasons below.

The audit performed by the Maricopa County Elections Department was lawful but we believe inadequate to address the close margin. We have provided oversight over many dozens of audits and there were several unfortunate deficiencies in terms of how the random samples were drawn and the timing of those actions. Also, we find that when counties audit themselves, there is a tendency to correct mistakes in the audited samples as opposed to reporting them. Hand-marked paper ballots usually exhibit at least 0.1% discrepancies with a hand count, due to differences in the interpretation of voter intent. The idea that no discrepancies were found is a red flag.

Also, the review of the machines in logic and accuracy testing and analysis is not an audit because it did not actually review any election data.

We must also point out that hand counting alone has a surprisingly high error rate. The typical hand-count error rate is around 0.5% to 2%. Even if the hand count methodology used in the Senate's hand count is far better than the approach used in the scientific studies (and there is no evidence that proves that point), the error rate is too high to find the 0.31% difference between Biden and Trump statewide.

Here is some scientific research about hand counting methods: <https://copswiki.org/Common/M1725>

"Post-Election Auditing Effects of Procedure and Ballot Type on Manual Counting Accuracy, Efficiency, and Auditor Satisfaction and Confidence" -- Election Law Journal (2012-03-05) Stephen N. Goggin, Michael D. Byrne, and Juan E. Gilbert.

They conclude that:

"Overall, this study provides valuable quantitative and qualitative evidence that manual post-election auditing is not an error-free process. Depending on the procedure used, as well as the type of ballot counted, manual audits can vary in their accuracy and efficiency, as well as their



AuditEngine

appearance of validity to the auditors and outside observers. While many argue manual audits are the “gold standard” by which we must evaluate computerized ballot totals due to the insecure nature of such machines, we must be careful to remember that even the most basic tasks performed by humans can and do introduce error into the process.”

Table 1 of the paper provides the "Total Candidate Error Rate," which ranges from 0.48% to 2.13%. So this is higher than the 0.31% needed by the Senate's hand count. To put a check on a 0.31% margin of victory, the ultimate error rate should be far less, perhaps no more than 1/10th of the margin of victory. Plus, the procedures used in this AZ hand count include other sources of error:

1. counting and totaling up the tallies in two places on the tally sheet (other tally sheet designs do not require any counting of the tally marks as the count can be just read from the sheet),
2. resolving difference between the three tally sheets (this appears difficult sometimes from our viewing of the video feed) and providing a total for the 100-ballot sheets
3. entering the data from the tally sheets (at least 63,000) into the large spreadsheet, with at least 21,000 lines but more likely 63,000 lines.

Thus, it is very likely that the hand count does not have an error rate sufficiently less than the margin of victory, and therefore the auditing team may find it politically advantageous to report an initial result that would put the contest into further doubt, and score partisan points in the media, rather than pursue a method that will trim the error rate even further.

This is why a ballot image audit is necessary. Conducting a ballot image audit in conjunction with the hand tally recount can help to locate and solve discrepancies in the hand count. Our audit methodology is more precise than the hand count because we compare with the final cast vote record down to the individual ballot. We will produce a discrepancy report of probably about 2,100 cases (about 0.1%) where undervotes may have been improperly interpreted by the voting system. When AuditEngine finds disagreements with the voting system, in our case study in three Florida counties, we found that AuditEngine interpreted voter intent correctly in 93% of those cases. But we also pull these out for adjudication and review.

The next step is to compare this result, on a batch-by-batch basis, with the result of the hand tally.

The Cast Vote Record files produced by the Dominion Voting System used by Maricopa County provides the batch ID number for each batch, and the batches can be subtotaled. We can convert the internal batch numbers to the batch numbers on the boxes. The results of Senate-sponsored hand count of paper ballots should provide batch subtotals. These batch subtotals can be compared batch-by-batch to the detailed results from AuditEngine's ballot image audit. If the hand count shows a substantial deviation in any batch, we can check it against the actual tally sheets and the ballot images. If there is still a discrepancy, the paper ballots can be inspected.

The original ballot images are very important because they were made early in the process, right as the user feeds their ballot into a voting machine, or when scanned by a central count scanner. It is actually very unlikely that the ballot images were "hacked" because no one was expecting a ballot image audit, and if there is suspicion that they were mishandled by any other subcontractors, then the original ballot images may be the most reliable.

The most recent iteration of our statement of work includes authorization to access the original ballot images from Maricopa County directly, to make sure there is no question that they are the ones blessed by election officials. This way, we will get the images in the form we normally expect.

Our system is extremely transparent. We have many reports which help deal with the inventory of ballot images and cast vote records, and the various disagreements we will find. The hand count of the paper ballots and the count of the ballot images act as a check on each other to ensure a fair and accurate outcome and increase public confidence in the outcome.

Because of the importance of these statewide contests, it would be prudent to expand the ballot image audits to Pima and Pinal Counties, which combined with Maricopa County, would cover about 80% of the electorate. If we add Yavapai, Mohave, and Yuma Counties, that will cover 90%. These audits are relatively inexpensive compared with hand counts, and provide a vast amount of information about the accuracy of results and the quality of election processing.

I encourage you to read our case study report of the three counties in Florida, where, although we did not find any changed outcomes, we did find nearly 5,000 duplicated ballot images due to an unreported rescanning of early voting ballots; one missing upload from a voting machine; and evidence that the ES&S election management system maintains two internal tabulations that can be different from one another. Please see the report here: <https://copswiki.org/Common/M1970>

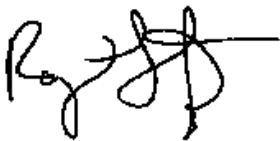
Citizens' Oversight is a 501(c)3 nonpartisan nonprofit organization. We are dedicated to completely transparent, fair and nonpartisan work on any audits performed. I understand the need to limit media disclosures, and thus we are willing to maintain confidentiality as required by the court, and work together to release the final reports to the public. I must also suggest very strongly that no reports be produced from the paper ballot hand count until it is checked by the ballot image audit. In addition to the high error rate, we continue to be concerned about unequal access by media organizations and the lack of publishing the scanned tally sheets as the work is being performed, so that these are frozen and made available to the public as a check on the hand count activity.

Ideally, the Arizona legislature will make ballot images public records which are not exempted from disclosure. Such a law was just passed in Georgia, and ballot images are public records in Florida, Wisconsin, California, and other states. San Francisco now provides all ballot images on its election website so that the public can review every ballot.

The delay in getting our agreement finalized is a concern as we do believe we have worked in good faith to reach an agreement. It is important to us that our reports will eventually be published and not shelved and we can have sufficient transparency so all questions by the public can be answered, while still complying with the court ordered security of election data. We are told now that the ballot image files are not in the possession of your subcontractors. Even if this is the case, we believe that getting them directly from the county election officials would be better anyway. Please help us push this agreement through the process.

We hope we can provide Arizona with this valuable service to the public.

Sincerely,

A handwritten signature in black ink, appearing to read 'Ray Lutz', with a stylized flourish at the end.

Raymond Lutz
Executive Director, Citizens' Oversight Projects