

2021 Senate State Government Committee Hearing – Risk-Limiting Audit Pilots

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Pennsylvania Department of State

Good morning and thank you, Chairmen Argall and Street, and members of the Senate State Government Committee for allowing the Department of State (Department) to submit written remarks and testify at today’s hearing on risk-limiting audit (RLA) pilots. In addition to remarks from the Department, you will hear from experts who have a primary focus and extensive background pertaining to Risk-Limiting Audits and how they strengthen election security.

Risk-limiting audits are undoubtedly one of the fairest, most transparent, and statistically proven method of auditing election results. Advocates from non-partisan organizations and election administrators across the nation favor risk-limiting audits, recognizing them as the gold standard for post-election audits. These audits, combined with the robust pre-election and post-election testing and reconciliation procedures in place in counties all across this Commonwealth, provide a high degree of confidence in the correctness of election outcomes up and down the ballot.

Our state is at the forefront of a movement to implement best-in-class election audit practices that are based on first-rate statistical modeling, after a multi-year collaborative effort between my office and the counties to create a system of which we can be proud. Other states, including Colorado, Washington, Nevada, and Rhode Island have authorized risk-limiting audits.

As currently required during the computation and canvass of returns, counties are statutorily obligated to complete a “statistical sample” audit of at least two percent of the ballots cast or 2,000 ballots, whichever number is fewer (See 25 P.S. § 3031.17.) This process essentially requires counties to conduct either a manual recount of those ballots or a recount of those ballots using a mechanical device different than the one used for the initial tabulation.

In 2019 and 2020, the Department began to explore alternative methods of post-election audits, in an effort to constantly improve our systems and to strengthen election security and public confidence in Pennsylvania’s electoral process, primarily focusing on risk-limiting audits to comply with the Stein Settlement Agreement. Risk-limiting audits provide evidence that the outcome of an election contest is correct. The first RLA pilots were conducted in Mercer and Philadelphia at the county level. Later, following the 2020 Primary, Pennsylvania conducted the first ever statewide RLA pilot. One primary goal of these audit pilots was to test models and best practices for enhanced post-election audits that are scientifically designed to strengthen election integrity, confirm the accuracy of election outcomes, and provide confidence to voters that their votes are being counted accurately.

To date, the Department has assisted counties to demonstrate two methods of risk-limiting audits, starting with “ballot polling” and most recently with “batch comparison.” While these two methods achieve the same objective, the involvement from the counties, in regards to processes, are much different.

- **Ballot Polling** is a form of RLA where voter selections on randomly selected paper ballots are interpreted manually. In preparation for a ballot polling RLA, counties begin their participation by preparing and submitting a ballot manifest, a two-column spreadsheet with unique container name and total number of ballots stored in the container. The ballot manifest is uploaded to a secure and centralized open-source auditing program. **Batch Comparison** is a form of RLA where sums of all batch subtotals are compared to contest results. Hand tallies from randomly selected paper ballot batches are compared with corresponding machine counts.

Regardless of method utilized, risk-limiting audits are designed to be fully transparent. The Department has encouraged counties to open the doors to the public to view and participate, when applicable, in the risk-limiting audit pilots that have been conducted.

Verified Voting, a non-partisan organization focused exclusively on the critical role technology plays in election administration and a member of the Department's post-election audit workgroup, has published great resources on their website that explain the differences between the RLA methods we have piloted in Pennsylvania. [Source: [RLA-Methods.pdf \(verifiedvoting.org\)](#)]

A risk-limiting audit is designed to identify the number of ballots necessary to confirm the correctness of the outcome of the contest being audited. A truly robust risk-limiting post-election audit that draws a random sample of ballots from all jurisdictions represented by a contest shifts the focus from the machines to confirming the accuracy of the outcome of that contest.

- Risk-limiting audits are different than the two percent statistical sample required by the Election Code in a few important ways. First, the statistical sample is a random sampling of ballots within each county independent of any other county in the Commonwealth. This difference alone can make the statistical sample hard to use for audits of district contests that cross more than one county. In contrast, a robust post-election audit, such as a risk-limiting audit, draws its sample from every jurisdiction represented by the contest(s) being audited. Second, a risk-limiting audit looks at as many or as few ballots as are needed mathematically to confirm the outcome. In contrast, a rigid two percent statistical sample does not take into account the unofficial margin of victory in any particular contest. As a result, auditing two percent of a county's ballots may fall short (if the unofficial margin of victory is very close), or it may overshoot (if the unofficial margin of victory is large) for purposes of confirming the accuracy of a particular outcome. For example, a county may randomly draw a group of ballots in the statistical sample that does not even include a narrowly decided local office, or
- if the unofficial margin of victory is very large, the statistical sample may draw out more ballots than are necessary to confirm the outcome of a statewide or multi-county district contest.

Finally, the statistical sample is limited inasmuch as it is designed only to confirm the relative accuracy of the tabulating equipment.

After the 2020 General Election, the Department coordinated counties' efforts to conduct a statewide ballot polling risk-limiting audit pilot of the election. This audit pilot was conducted by the counties **in addition to** and not in place of the statutory two-percent statistical sample. To complete the audit pilot, counties created ballot manifests that accounted for the organization of cast ballots in their respective county. The ballot manifest from each county included the full universe of ballots: in-person, mail-in, absentee and provisional. After ballot manifests were finalized, the counties uploaded them to "Arlo,"

an open source audit software provided by VotingWorks (a 501(c)(3) registered non-profit organization that builds election technology), and the department generated a 20-digit random seed number using 10-sided dice. Upon entering the random seed number, the audit software randomly selected a list of ballots to be retrieved by each county's board of elections, totaling over 45,000 randomly selected ballots from across the Commonwealth for the November 3, 2020, General Election.

Sixty-three participating counties retrieved the ballots, manually reviewed and recorded the vote cast for the presidential contest from each ballot and entered the results of their tally into the auditing software. The results of the random sample mirrored the reported presidential election results across the participating counties and across the Commonwealth within a fraction of a percentage point, providing strong evidence of the accuracy of the outcome. A copy of the results of the audit pilot have been shared in response to Senator Argall's letter, recently addressed to the Department of State.

Given the tight margin of victory between the candidates in the contest for President, the random sample size in the risk-limiting audit was larger than needed to ensure a sample large enough to confirm with a high degree of confidence that the reported result of the contest for President was correct. Between the statutory two percent statistical sample and the risk-limiting audit pilot, 63 of Pennsylvania's 67 county boards of elections conducted two post-election audits of the November 3, 2020, presidential election.

The success of the 2020 risk-limiting audit pilot was only possible as a result of years of work and collaboration with the counties. In January 2019, the Department of State formed a Pennsylvania post-election audit workgroup, in compliance with the Stein Settlement Agreement, to study models of post-election audits. The objective of the workgroup was to identify and assist with the implementation of robust post-election pre-certification audits. The post-election audit workgroup was comprised of county election officials from counties of all sizes, rural and urban; stakeholders from organizations dedicated to voting rights and transparent processes; as well as various personnel from the Department of State who serve as advisers.

As noted above, the first two RLA pilots occurred in November of 2019, with participation from Philadelphia and Mercer counties. These initial pilots were tremendously helpful in identifying areas for improvement, in the respects of ballot containment and organizational practices, and pre-planning for future post-election audits.

Most recently, the workgroup's efforts have been focused on leveraging the lessons learned during the audit pilots to develop the best solution for the future of Pennsylvania post-election audits. The workgroup members are assisting the Department with developing recommendations to move conversations with legislators forward. In conversation with the workgroup, the Department received feedback from counties pertaining to the RLA models that were recently piloted, the various approaches, and what method would be ideal to move forward with in the event of another risk-limiting audit pilot in November of this year. County members of the workgroup overwhelmingly supported the "batch comparison" model of risk-limiting audit over the "ballot polling" model. County members found the batch comparison approach to be more in line with the practices and procedures counties are already familiar with because of the current two percent statistical sample audit counties must complete pre-certification.

One primary goal of the Department is to ensure full participation in a statewide pre-certification RLA pilot this November. The Department will work closely with the counties, as we have done with previous pilots, to provide recommendations on best practices, supporting guides and reference documents, as well as leveraging available DOS personnel to assist counties with their needs to participate in future risk-limiting audit pilots.

Much has been made about the concept of conducting “forensic audits” of elections. The term “forensic audit” is traditionally used in the world of finance and accounting as a mechanism to identify errors or to uncover fraud and waste. These forensic audits are possible because auditors can review individual transactions and they can trace them to specific entities or people. Such an audit is **not possible** in elections because every voter has the right to a secret ballot, as the Pennsylvania Constitution makes clear. Such an audit is also **not necessary** in elections because we already have post-election audits and safeguards in place throughout the election cycle to catch errors and anomalies. These safeguards include verifying the identification of every absentee or mail-in voter prior to counting their ballot, reconciling the election day records and absentee/mail-in records to ensure that those records match, and conducting both pre-election and post-election logic and accuracy testing to ensure that the equipment used to tabulate ballots is working and tabulating vote totals accurately. These activities are undertaken by a bipartisan election board in each county. In most counties, these election board members are elected by the voters of their county, and they are directly accountable to every resident of their county. Any statutory changes or additions to post-election auditing requirements in the future in Pennsylvania must ensure that post-election audits continue to be objective and transparent and continue to be overseen by bipartisan election officials.

The Department has worked diligently with counties over the past several years to update and strengthen both post-election auditing and reconciliation guidance, as well as pre-election and post-election testing guidance to ensure that every county in the Commonwealth is efficiently and effectively conducting these important election tasks. We and the counties have made significant progress in maintaining the security and integrity of our elections in the face of changing threats. As a result of these efforts, voters should have more confidence than ever in the integrity of Pennsylvania’s elections. Unfortunately, some people have been actively working to undermine voters’ confidence in elections generally and in their local election officials specifically. As a result, our county election officials have faced death threats and fear for their safety. We must continue to battle misinformation with facts about how counties conduct our elections. We must also continue to support our county election officials in the face of these attacks on their integrity by giving them the tools they need to tabulate ballots and publish unofficial results quickly and accurately.

We look forward to working with the General Assembly to continue moving forward with Pennsylvania’s efforts to modernize and further secure our elections.

Thank you again for giving me the opportunity to testify before the Senate State Government Committee this morning.