In partial response to

http://www.sos.state.co.us/pubs/rule_making/written_comments/2017/20170717Klotz-DouglasCounty.pdf

with recognition of and apologies to so many hard working county clerk and recorders who do whatever they are capable of to enhance election integrity within extreme limitations on cost and limited existing resources. Rule 25 supporting the Risk Limiting Audit is the most cost effective solution to come in a long time to enhance and confirm tabulation quality. It has been a long time coming and much anticipated. A remaining issue to work on is eligibility verification as mentioned here.

1) **"jurisdictions ...still rely on polling place elections,** *each with a single ballot style and no structural security***. However, this is Colorado and the state and security of election process here is advanced from many others."**

In reality, precinct polling has structural security that central count elections lack. Paper poll books located in only one place for each voter to sign on only one line are structurally far more secure than ballot envelopes distributed by mail to all registered electors statewide regardless of whether they personally plan to vote. The easy availability of envelopes throughout the state containing signable attestations of eligibility that are so easy to sign makes ineligible voting far more likely and difficult to detect. The best way we have to detect actual misuse of the mail ballot packet is to hear from the correct voter looking for a ballot packet after the fraudulently signed one has been returned and counted. There is no log of instances of this in Colorado although Colorado counties may alert their DAs when it happens.

A single day to vote in precinct polling is far easier to oversee by anyone interested in election integrity as well as political parties who usually mobilize watchers to check the process. When voting takes place at home, and in places and times subject to the whim of the voter, and over a period of at least two weeks time, oversight is not only not natural, it is extremely difficult or impossible. The lack of opportunity for oversight of casting the ballot is a structural deficiency of the Colorado centralized, time-extended, cast-at-home model of elections.

The single ballot style associated with a precinct is itself an example of structural security of the anonymity of the ballot that is directly associated with defending the privacy of the voter. Colorado will have to take steps that election officials appear unwilling to take to protect the privacy of the voter. That privacy would have been achievable and verifiable by the voters themselves in a precinct polling situation. In Colorado's model it is an election rule that disassociates envelope batches from tabulation batches that is needed to secure the privacy of the voter. County Clerks in Colorado who mention the rule (10-5-1) are uniformly opposed.

In reality, precinct polling place elections have built-in structural security. Centrally counted elections are not characterized by inherent security. Colorado elections have an incomplete and still inadequate attempt to compensate for loss of inbuilt, structural security and natural

voter oversight of precinct polling places and election day voting. Colorado's logic and accuracy tests (LAT) are only suited to rudimentary check of tabulation using perfectly voted ballots, unlike voter marked ballots. LAT does not treat ballots to the same folding, stuffing and trip through the mail and other conditions experienced by voted ballots. The legacy post election audit likewise does not audit the actual tabulations from election night, instead choosing to rerun the tabulation process under close supervision days after the election. Ballots thus re-tested are not randomly selected, too few and limited to 500 ballots. From this ill-defined "audit" which we learn little, especially after counties endeavor to match hand counts to machine created totals. Colorado's existing statutory tests are poorly designed and often inadequately executed and often rigged to find little. In several counties, the 2016 post election audit was deliberately arranged such that the auditors would not find errors in human adjudication. The new RLA will do so if counties are willing to cooperate. And it appears that most are more than ready and willing to do so.

2) **"The entirety of the process can be secured, precluding a need to rely on a single element of the process for confidence in the outcome."** At best 5% or 10% of Colorado ballots are cast in a secure environment of a government maintained polling place. Colorado's existing mechanisms do not prevent double voting as shown by the instance of a Pueblo county voter who successfully voted by mail, through a combination of election office errors did not get "credit for voting," and then registered and voted in Denver.This according to the Pueblo County Clerk and Recorder at the 2016 canvass board meeting.

Another voter who was incorrectly recorded into the wrong county at the correct address was denied ability to vote by emergency ballot when his email containing his emergency ballot application was not read by Pueblo county officials until after election day. Also in Pueblo the newly installed voting system simply shut down in the morning of election day because its software was not licensed to accommodate the number of ballots being tabulated. And the statewide system that is required to support registration of voters, eligibility check, credit for voting etc. failed to provide the necessary service in a timely manner on election day on at least two extended occasions, causing long lines extending till past 10PM in many large counties. In Boulder, thousands of provisional ballots had to be issued and later processed. And those are only a few of the errors that have come to my attention. Such errors are rarely widely reported upon discovery and at least as often not discovered at all.

3) Colorado has **"uniform, advanced, central scan election processes."** Colorado process is anything but uniform, as one might guess from the many comments to rule-making asking for discretion on the part of counties to each decide how to conduct each part of the election. An unpublished investigation written up by the SOS about signature verification reports a lack of uniformity. Even among counties adopting the new formerly-known-as-uniform voting system there are big differences in practices that are observable only by painful efforts at election watching in many counties such as I have engaged in. And while security measures are effectively applied to scanning device software (trusted build) and to online voter registration database (two factor authentication, cybersecurity reviews etc.) little comparable effort is applied to the internet connected computer systems that manage the eligibility check of most Colorado ballots. In large counties expensive un-certified machines that aren't subject to the LAT and Post Election Audit use software both to verify signatures and to manage election-judge-based signature verification. These systems are also susceptible to intrusion and unexpected error, yet are minimally tested and minimally subject to oversight and security considerations.

4) Were one to mount a demonstration to produce a fraudulent modification of outcome in

Colorado, likely the softest target isn't Douglas County's underground, windowless counting room that is mostly susceptible to mistakes made by or errors not detected by insiders while non-officials who attempt to monitor are almost entirely kept beyond a glass barrier. It is the tens of thousands of unused ballot envelopes and ballots, and the poorly monitored ballot drop boxes that are most susceptible to fraud in CO. The fastest way to defraud a Colorado election is to place a false drop box in a political-opposition neighborhood on election day and disappear the ballot packets. Even this type of fraud is not unheard of in Colorado.

The susceptibility of Colorado elections to fraud and error is not limited to tabulation. Existing practices to secure and oversee the tabulation portion of elections are inadequate. If properly implemented, the RLA will be far superior and likely adequate for detection and correction of tabulation errors and fraud of audited contests, and provably so. It will not detect or correct eligibility error or fraud or registration data errors.

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