Risk-Limiting Audit Participation Group

Kickoff Conference
Colorado Secretary of State
February 3, 2017
Agenda

• Introduction
• Purpose of the RLA Participant Group
• RLA Participant Group Members
• Conference protocols and guidelines
• Schedule of conferences
• Overview – Colorado legal requirements
• Overview – Risk-limiting audits
• Next meeting
Welcome to the kickoff conference of the Risk-limiting Audit Participant Group

Housekeeping items

- Audio broadcast
- Note date and time
- Use microphones to speak
Section 1-7-515, C.R.S., requires Colorado’s clerks and recorders to implement risk-limiting post-election audits commencing in 2017, in accordance with rules adopted by the Secretary of State.

Secretary of State contemplates adopting RLA rules later this year.

The purpose of this group is to exchange views and participate in the development of a set of principles to inform the structure and content of the contemplated RLA rules.
These conferences are not rulemaking hearings. Rather, they represent a forum for various stakeholders to exchange ideas about RLA procedures and best practices.

Formal rulemaking will begin after the 2017 legislative session adjourns on May 7th.

All members of public – including RLA Participant Group members – will have an opportunity to submit written comments regarding the proposed RLA rules, during pre-notice and public comment phases.
RLA Participant Group Members

• Pam Bacon, CCCA President and Logan County Clerk and Recorder
• Matt Crane, Arapahoe County Clerk and Recorder
• Hillary Hall, Boulder County Clerk and Recorder
• Janice Vos Caudill, Pitkin County Clerk and Recorder
• Garland Wahl, Washington County Clerk and Recorder
RLA Participant Group Members (continued)

• Philip Stark, Ph.D., Associate Dean of Mathematical and Physical Sciences, and Professor, Department of Statistics, University of California, Berkeley

• Eric Coomer, Director of Product Strategy, Dominion Voting Systems

• Ed Smith, VP Product, Clear Ballot Group
• Harvie Branscomb, computer scientist and election integrity proponent

• Neal McBurnett, computer scientist and election integrity proponent

• Mark Lindeman, political scientist and liaison for ad hoc group of election integrity and risk-limiting audit proponents
RLA Participant Group Members (continued)

- Representatives of Secretary of State
  - Dwight Shellman – County Support Manager
  - Jessi Romero – Voting Systems Manager
  - Danny Casias – Voting Systems Specialist
  - Jerome Lovato – Voting Systems Specialist
  - Trevor Timmons – Chief Information Officer
  - Ben Rector – JAVA Development Manager
  - Steven Ward – Administrative support
Conference protocols and guidelines

• Jerome Lovato is the main point of contact for the working group (jerome.lovato@sos.state.co.us or 303-894-2200 ext. 6355)

• Submit all comments to Jerome by 5:00 PM on the Friday before the next meeting (Please do not reply-to-all when submitting comments or questions)

• The scope of the meetings will be limited to the agenda that will be sent to the group prior to each meeting

• All comments and audio of meetings will be posted on https://www.sos.state.co.us/pubs/elections/VotingSystems/riskAuditGroup.html
Schedule of conferences

• Conferences will be held every other Friday from 1:30 – 3:30 PM at the Secretary of State’s offices, located at 1700 Broadway, Denver, CO 80290


• Today’s conference is being held in the Blue Spruce conference room on the second floor

• Future conferences probably will be held in the Aspen conference room on the third floor

• The exact location of future conferences will be specified in the notice of conference, issued in advance
Overview – Colorado legal requirements

• Colorado law requires three voting system tests for each election
  – Hardware diagnostic test (Election Rule 11.3.1)
  – Logic and accuracy test (Election Rule 11.3.2)
  – Post-election audit (Election Rule 11.3.3)

• Historically, county clerks have conducted *random* post-election audits after each election
  – Provides some assurance that randomly selected tabulation equipment operated accurately
  – But does not yield a statistically meaningful level of confidence that the audit revealed an incorrect outcome, if any
As noted, section 1-7-515, C.R.S., requires Colorado to implement risk-limiting audits in 2017.

Risk-limiting audits utilize a methodology that yields a statistical level of confidence (the risk limit) that the audit will reveal an incorrect outcome.

- If the risk limit is satisfied, the audit is successful and stops.
- If the risk limit is not satisfied, the audit continues and may result in a manual recount of all ballots cast in the election.
Overview – Risk-limiting audits (continued)

• The number of ballots that need to be examined in a risk-limiting audit is a function of the margin of victory in audited contests
  – Relatively fewer ballots are audited in contests with wide margins
  – Relatively more ballots are audited in contests with narrow margins
Overview – Risk-limiting audits (continued)

- Must be vendor agnostic
- Must be transparent yet protect voter anonymity
- Uniform risk limit throughout the state
- SOS will develop RLA tool for counties to use in randomly selecting ballot to audit, based on Philip Stark’s online prototype
- Exact methodology depends on county’s voting system:
  - Comparison audit for counties with voting systems that generate ballot-level cast vote record (See Election Rule 21.4.14)
  - Parallel scanning or ballot polling audit for counties with voting systems that cannot generate ballot-level cast vote record
Overview – Risk-limiting audits (continued)

• Pre-Election
  – Appoint an audit board
  – Create a ballot manifest for use during ballot scanning, describing how scanned ballots are organized and stored
  – Define ballot batch size
  – Maintain ballot chain-of-custody

• Ballot scanning
  – Maintain ballot order (Bates stamping/imprinting?)
  – Secure and store ballots in accordance with ballot manifest
Overview – Risk-limiting audits (continued)

• **Post-Election: Conducting the audit**
  
  – Timing of audit: after tabulation and before canvass
  
  – Select contests to audit
  
  – Randomly select ballots to audit
  
  – Retrieve randomly selected ballot from storage location
  
  – Compare selected ballot to CVR and ballot image
  
  – If tabulated ballot has been duplicated, compare tabulated ballot to original ballot
  
  – Continue reviewing randomly selected ballots until risk limit is met or full recount
  
  – Submit RLA report to SOS
Next meeting

- In outline form:
  - List all general principles and concepts that should apply to risk-limiting audits
  - List in order all steps in the conduct of comparison and ballot polling audits

- We will review all submissions next meeting, then dive into detail of individual steps at subsequent meetings