From:	Harvie Branscomb		
To:	SoS Rulemaking		
Cc:	Dwight Shellman; Jerome Lovato; Volkosh, Daniel J Office of the Clerk & Recorder; Merlin Klotz; "Brandy Ward - Washington"		
Subject:	Written Comments on Election draft rule		
Date:	Monday, July 10, 2017 12:00:36 PM		
Attachments:	Branscomb annotated F 20170706ElectionsRevisedDraftRules.pdf		

Andrea and SOS folk

I attach my written comments on the latest revision of the changes to Election Rules. No need to redact my email address so please post the attached pdf and this letter as soon as practicable.

I am thankful that Merlin Klotz and Dan Volkosh and Brandy Ward have taken the opportunity to comment in public in advance of the meeting tomorrow. Also of course the esteemed group of national auditing experts who have collaborated to produce comments fabulously wrangled together by auditing expert Mark Lindeman.he also posted comments representing himself separately.

Dan's comments from Denver preview at least one comment from the ESRC among no doubt many comments that we among the public have not seen yet. I have addressed two of Dan's issues in my attached comment document. This public comment opportunity works much more effectively if participants post their comments prior to the deadline so that others can make supportive comments or critiques. In particular I encourage the Clerks Association to publish their comments in timely fashion so that an open discussion outside the effectively closed clerk community can take place. For that reason this is not my first set of comments. And I will likely make an updated set of comments after tomorrow's meeting.

Thanks to the SOS staff and the supportive statute for the opportunity to comment on these important rules. This is a very crucial moment in the evolution of election verification nationwide. What may seem like minor decisions today can have big impact on the future national election scene - including the wording we include in this rule. For many of us this represents a culmination of over 10 years of close attention paid and probably thousands of hours of unpaid effort.

Please take the attached suggestions seriously.

Harvie Branscomb

Revised Draft of Proposed Rules

Office of the Colorado Secretary of State Election Rules 8 CCR 1505-1

July 6, 2017

[Comments and alternative language provided by Harvie Branscomb harvie at electionquality dot com 7/10/2017. Edits in red, comments in [brackets]. Portions not affected by these comments are not shown.]

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4	1.1.10	"CAST VOTE RECORD" OR "CVR" MEANS THE AGGREGATED BALLOT-LEVEL DATA ON
5		BALLOTS COUNTED, CONSISTING OF A SINGLE RECORD FOR EACH BALLOT TABULATED,
6		SHOWING THE MANNER IN WHICH THE VOTING SYSTEM INTERPRETED AND TABULATED
7		TRANSCRIBED THE VOTER'S MARKINGS ON THE BALLOT, AS ADJUDICATED AND
		RESOLVED BY ELECTION
8		JUDGES, IF APPLICABLE.

[the CVR is ballot level, not aggregated or "tabulated" data. The definition of CVR should not include "tabulation" but interpretation and transcription or recording would be correct. I provide a definition of "tabulation" later in the rule.]

1.1.33 "PERSONALLY IDENTIFIABLE INFORMATION" MEANS INFORMATION ABOUT AN INDIVIDUAL THAT CAN BE USED TO DISTINGUISH OR TRACE AN INDIVIDUAL'S IDENTITY, Page 2 of 23

1 2 SUCH AS AN ELECTOR'S <u>FULL</u>SOCIAL SECURITY NUMBER, DRIVER'S LICENSE NUMBER, EMAIL ADDRESS, <u>AND MONTH AND DAY OF BIRTH.</u>

[this definition is dangerously vague- permitting too much local variation in interpretation to fulfill the transparency needs of election oversight. The definition in rule should be clear and consistent. And it ought not include "signature" as signature can and should be treated separately. This definition would suffice only if it were limited to prevent copying and removal of data from the control of the custodial authority. However this definition is used much more widely to prevent visual access. Considering that, signature should not be included in this definition. Signature verification is a standard part of eligibility determination and must be accessible for oversight (but not copying or removal.]

8	2.5.4 IF AN UNAFFILIATED ELECTOR WHO HAS ALREADY BEEN MAILED A PRIMARY ELECTION
10	BALLOT PACKET SUBMITS AN AFFILIATION DECLARATION, THE COUNTY CLERK MUST
11	DEFER PROCESSING THE AFFILIATION CHANGE UNTIL AFTER THE PRIMARY ELECTION;
12	EXCEPT THAT AN UNAFFILIATED ELECTOR WHO APPEARS IN PERSON TO VOTE MAY
13	AFFILIATE AND VOTE A PARTY BALLOT IF THE COUNTY CLERK HAS NOT RECEIVED THE
14	ELECTOR'S VOTED MAIL BALLOT <u>PACKET</u> .

[Ballots are not private records and are not subject to elector ownership. Ballots must not be associated with voter identity. Language like "elector's ballot" ought not be used.]

20	
21	2.13 Voter registration at a voter service and polling center.
22	2.13.1 A person registering voters or updating voter registration information in a voter service
23	and polling center must:
24	(a) 2.13.1 Be an election judge, a permanent or temporary county employee, state
~~	
25	employee, or temporary staff hired by the county clerk; and
26	(b) 2.13.2 Complete a training course provided by or approved by the Secretary of
27	State.
[All	persons handling registration during the election in VSPCs should be appointed and trained as election
judge	

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27	7.2.10 MAIL BALLOT RETURN ENVELOPES FOR UNAFFILIATED VOTERS IN A PRIMARY ELECTION
28	MAY PROVIDE A MEANS FOR THE COUNTY TO DETERMINE, BEFORE OPENING THE
29	ENVELOPE, WHICH PARTY'S PRIMARY ELECTION THE ELECTOR VOTED IN. IF THE MAIL
30	BALLOT RETURN ENVELOPE DOES NOT PROVIDE SUCH A MEANS, THE COUNTY MUST
31	FOLLOW THE PROCESS OUTLINED IN RULE 7.5.13. TO THE EXTENT PRACTICABLE, THE
	BALLOT STYLE OF THE VOTED BALLOT TO BE COUNTED SHALL BE RECORDED.

[while modifying software and procedure to capture the political party, it makes sense to capture ballot style at the same time- this gives benefits for audit efficiency, as well as a means to resolve issues with fulfillment of incorrect ballot style or return of incorrect style.]

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	7.5.10 7.5.11 If an elector delivers a ballot to the wrong county, that county must date stamp
2	the ballot envelope AND TIMELY FORWARD IT TO THE CORRECT COUNTY. BEGINNING THE
3	THURSDAY BEFORE ELECTION DAY, THE COUNTY MUST NOTIFY THE CORRECT COUNTY
4	OF RECEIPT BY SECURE ELECTRONIC TRANSMISSION WITH A SCANNED IMAGE OF THE
5	OUTSIDE OF THE MAIL BALLOT ENVELOPE INCLUDING THE SIGNATURE, and forward it to
6	the correct county NO LATER THAN THE NEXT BUSINESS DAY. A COUNTY THAT
7	PHYSICALLY DELIVERS BALLOTS TO ANOTHER COUNTY NO LATER THAN THE NEXT
8	BUSINESS DAY IS NOT REQUIRED TO SCAN THE ENVELOPE. The correct county must treat
9	the ballot as received as of the date and time of the date stamp. THE COUNTY RECEIVING
10	THE IMAGE MAY PERFORM SIGNATURE VERIFICATION UPON RECEIPT OF THE IMAGE.

[Arguments against beginning signature verification upon receipt of the envelope image do not seem strong in comparison to the harm that a delay in sending cure letters might cause. Small counties do not keep election judges on hand to perform signature verification every day after election day, so cure process for late arriving ballots can be unnecessarily delayed or rendered impossible. This is a reasonable remedy to reduce that problem.]

177.5.13UNAFFILIATED VOTERS IN A PRIMARY ELECTION. IF AN ELECTION JUDGE IS UNABLE TO18DETERMINE, BEFORE OPENING THE ENVELOPE. WHICH PARTY'S ELECTION THE ELECTOR19VOTED IN, THE COUNTY MUST SEPARATE THE ELECTOR'S BALLOT FROM THE ENVELOPE20IN THE FOLLOWING MANNER:

[Again, the ballot is not private, no need to give it an owner here. And the intention is to protect the privacy of the voter and the anonymity of the ballot- therefore please no "elector's ballot"]

21	(A)	AN ELECTION JUDGE MUST REMOVE THE BALLOT, ENCLOSED IN A SECRECY
22 23 24		SLEEVE, FROM THE MAIL BALLOT RETURN ENVELOPE AND PASS IT TO A BIPARTISAN TEAM OF JUDGES WITHOUT ALLOWING THE TEAM OF JUDGES TO DETERMINE THE IDENTITY <u>, OR OTHER SENSITIVE DEMOGRAPHIC</u> <u>CHARACTERISTICS</u> -OF THE ELECTOR.
		[rule needs a list of such sensitive demographic characteristics such as political party, age, sex etc., but failing that, at least write the category as I have.]
25	(B)	THE BIPARTISAN TEAM OF ELECTION JUDGES MUST REMOVE THE BALLOT FROM
26		THE SECRECY SLEEVE, REVIEW THE BALLOT, AND AUDIBLY REPORT TO THE FIRST
27		ELECTION JUDGE WHICH POLITICAL PARTY'S ELECTION THE ELECTOR VOTED IN.
28	(C)	THE FIRST ELECTION JUDGE MUST RECORD IN SCORE WHICH POLITICAL PARTY'S
29		ELECTION THE ELECTOR VOTED IN, OR MARK THE MAIL BALLOT RETURN
30		ENVELOPE WITH THE PROPER PARTY INFORMATION FOR LATER RECORDING IN

31 SCORE. IF PRACTICABLE, THE BALLOT STYLE SHALL SIMILARLY BE RECORDED.

[As per a comment above, the style can be valuable for auditing and for accountability.]

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31	10.4 10.5	Procedures for the day of the Canvass
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- 32 10.4.1 10.5.1 The designated election official must provide the following information to the
- 33 canvass board:

[Considering the comments of Dan Volkosh about the relationship of "primary" to "election" - the argument that each party is only a part of a single election, it seems important that the rules clarify that all these categories of data are to be recorded for each party portion of the election. It is also desirable to keep applicable data recorded by style and not only across the entire election or party portion thereof.]

- 34
- (a) The name of each candidate, office, and votes received;
- 35
- (b) The number or letter of each ballot issue or question and votes received;

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1	(c)	The TOTAL number of ballots cast -BY STYLE, including the number of accepted and rejected		
2		mail ballots;		
3	(d)	The number of provisional ballots cast PERPOLITICAL PARTY IF APPLICABLE, includingthe number accepted and		
4		rejected; TOTALS FOR:		
5		(1) BALLOTS ACCEPTED BY EACH CODE; AND		
6		(2) BALLOTS REJECTED BY EACH CODE.		
7	(e)	The number of mail ballots counted and the number rejected; CAST, INCLDUING		
8		INCLUDING TOTALS FOR:		
9		(1) BALLOTS ACCEPTED; AND		
10		(2) BALLOTS REJECTED BY EACH CODE.		
11	(f)	The number of in-person ballots counted;		
12	(g)	The number of provisional ballots counted and the number rejected listed by each		
13		rejection code; and		
14	(G)	THE NUMBER OF EMERGENCY REPLACEMENT BALLOTS PER POLITICAL PARTY IF APPLICABLE, INCLUDING TOTALS FOR:		
15		(1) BALLOTS ACCEPTED; AND		
16		(2) BALLOTS REJECTED BY EACH CODE.		
17	(h)	The number of damaged and spoiled ballots.		
18	(I)	IF APPLICABLE, THE NUMBER OF BALLOTS CAST BY METHOD IN EACH PARTY'S PRIMARY		
19		ELECTION, INCLUDING TOTALS FOR:		
20		(1) BALLOTS ACCEPTED IN EACH PARTY'S PRIMARY ELECTION BY		
21		AFFILIATED AND UNAFFILIATED VOTERS; AND		
22		(2) BALLOTS REJECTED BY EACH CODE.		

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16.1.6 The county clerk must send a minimum of one correspondence no later than 60 days 25 27 before the Primary Election OR PRESIDENTIAL PRIMARY ELECTION, IF APPLICABLE, to each elector whose record is marked "Inactive." The correspondence may be sent by 28 29 email or mail and, at a minimum, must notify the electors of: 30 (a) The status of the elector's record and ballot request; 31 (b) The upcoming federal elections; 32 How to update the elector's **RESIDENCE ADDRESS**, mailing information and (c) HOW TO CHANGE AFFILIATION OR PARTY PREFERENCE request a ballot; and [I think ballot request status is antiquated by 1303. But residence and affiliation/party preference isn't.] Page 16 of 23 1 25.1.3 "BALLOT POLLING AUDIT" MEANS A TYPE OF RISK-LIMITING AUDIT IN WHICH THE AUDIT 2 BOARD EXAMINES AND REPORTS TO THE SECRETARY OF STATE VOTER MARKINGS ON RANDOMLY SELECTED BALLOTS SEEKING STRONG EVIDENCE THAT THE REPORTED 3 TABULATION PRE-AUDIT OUTCOME IS CORRECT-EQUAL TO THE OUTCOME OF A FULL HAND COUNT. [The definition of "tabulation outcome is correct" will be a problem here. To solve, "seeking strong evidence that the reported pre-audit outcome is equal to the outcome of a full hand count."]

- 5 25.1.4 "COMPARISON AUDIT" MEANS A TYPE OF RISK-LIMITING AUDIT IN WHICH THE AUDIT
- 6 BOARD EXAMINES AND REPORTS TO THE SECRETARY OF STATE VOTER MARKINGS ON

7 RANDOMLY SELECTED BALLOTS, AND THEN COMPARED COMPARES THEM THESE ARE COMPARED TO THE VOTING

8 SYSTEM'S TABULATION AS REFLECTED IN THE CORRESPONDING CAST VOTE RECORDS. [This language allows the SOS Audit center and its tool to do the comparison, rather than the Audit board doing it.]

25.1.8 25.1.5 "Reported <u>TABULATION</u> <u>PRE-AUDIT</u> OUTCOME" MEANS THE PRESUMED WINNING AND LOSING CANDIDATES OR VOTING CHOICES OF A BALLOT CONTEST AS REFLECTED IN PRELIMINARY RESULTS.

[I suggest using the term "reported pre-audit outcome" rather than "reported tabulation outcome."]

25.1.6 "'RISK LIMIT' MEANS THE PRE-SPECIFIED MINIMUM CHANCE OF REQUIRING A FULL HAND COUNT IF THE OUTCOME OF A FULL HAND COUNT WOULD DIFFER FROM THE REPORTED PRE-AUDIT OUTCOME."

[The draft-proposed definition of risk limit does not acknowledge the limitation of scope of the RLA to tabulation. The full hand count called for does address tabulation accuracy but not eligibility of the ballots to be tabulated. Above is a more correct definition.]

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25.1.10 25.1.	7 "RISK-LIMIT	ING AUDIT" OR "RLA" MEANS A POST-ELECTION <u>TABULATION</u> AUDIT OF VOTES				
2	ON A COLLECTION OF PRESUMED ELIGIBLE PAPER BALLOTS AND VVPAT RECORDS, CONDUCTED IN ACCORDANCE WITH SECTION					
3	1-7-515, C.R.S., AND RULE 25.2, WHICH HAS A PRE-SPECIFIED MINIMUM CHANCE OF					
4	REQU	IRING A FULL HAND COUNT IF THE OUTCOME OF A FULL HAND COUNT WOULD				
5	DIFFE	R FROM THE REPORTED <mark>TABULATION</mark> <u>PRE-AUDIT</u> OUTCOME.				
	not touch eligib	tial to understand that this audit is for tabulation (interpretation and aggregation) and does bility issues and in best practice it will not proceed if other issues impinging on the accuracy				
	indicated.]	are not similarly resolved such as through separate audit. Future effort in this area is				
6		3 "RLA TOOL" MEANS THE SOFTWARE AND USER INTERFACE PROVIDED BY THE				
7		ETARY OF STATE TO ASSIST WITH AND HELP COORDINATE RLAS IN ORDER FOR				
	O CONDUCT RL					
		tention of the software tool into a coordination role rather than a purely county not be play the authoritative role in "conducting" a multi county audit.]				
37	(C)	BALLOT MANIFEST. WHILE TABULATING BALLOTS, THE COUNTY MUST				
38		MAINTAIN AN ACCURATE BALLOT MANIFEST IN A FORM APPROVED BY THE				
39		SECRETARY OF STATE. THE BALLOT MANIFEST SHOULD BE OBTAINED FROM A				
		SOURCE SEPARATE AND INDEPENDENT OF THE VOTING SYSTEM FOR EXAMPLE,				
		BY COUNTING BALLOT PAGES INDEPENDENTLY (EITHER BY HAND OR WITH A				
		DEVICE INDEPENDENT OF THE VOTING SYSTEM) AS SOON AS POSSIBLE AFTER OPENING AND SCREENING FOR ELIGIBILITY DISCREPANCIES. BALLOTS SHOULD BE				
		KEPT IN THE SAME ORDER IN CONTAINERS AS SHOWN ON THE BALLOT MANIFEST				
		THROUGHOUT THE PROCESS, AND THE BALLOT MANIFEST SHOULD BE CONFIRMED				
		JUST BEFORE BALLOTS ARE PLACED IN CONTAINERS AFTER TABULATION.				
		DISCREPANCIES AMONG BALLOT MANIFEST AND CVRS MUST BE INVESTIGATED BY THE AUDIT BOARD, RESOLVED IF POSSIBLE AND REPORTED TO THE AUDIT				
		CENTER. AT A MINIMUM, THE BALLOT MANIFEST MUST UNIQUELY				
40		IDENTIFY FOR EACH TABULATED BALLOT THE SCANNER ON WHICH THE BALLOT				
41		IS SCANNED, THE BALLOT BATCH OF WHICH THE BALLOT IS A PART, THE NUMBER				
42		OF BALLOTS IN THE BATCH, AND THE STORAGE CONTAINER IN WHICH THE				
		[The ballot manifest must not be a product of the voting system and therefore it is				
		unlikely/undesirable to contain the scanner ID- preferably the ballot manifest will exist				
		well prior to scanning and will be used as the measure of whether all ballots were scanned				
		or not. The ballot manifest must be accurate during more than only "tabulation"]				
		Page 18 of 23				
1		BALLOT BATCH IS TO BE STORED AFTER TABULATION. IF PRACTICABLE THE				
		MANIFEST SHALL INCLUDE BALLOT STYLE OF EACH BALLOT AND POSITION WITHIN THE BATCH. THE COUNTY MUST SECURE AND				
2		MAINTAIN IN SEALED BALLOT CONTAINERS ALL TABULATED BALLOTS IN THE				
3		BATCHES AND ORDER THEY ARE SCANNED. THE COUNTY MUST MAINTAIN AND				
4		DOCUMENT UNINTERRUPTED CHAIN-OF-CUSTODY FOR EACH BALLOT STORAGE				
5		CONTAINER. <u>RECORDS THAT SUBSTANTIATE CHAIN-OF-CUSTODY MUST BE</u> ACCESSIBLE FOR REVIEW OUTSIDE THE CONTAINER.				
		[This language encourages development of procedures that can capture the ballot				
		style and include it in the ballot manifest – not essential – but desirable. It				
		encourages earliest possible creation of the manifest. Also it requests that				
		documentation of chain of custody such as tamper proof seal records be kept				
		accessible for review.]				

10 RANDOM SEED. THE SECRETARY OF STATE WILL CONVENE A PUBLIC MEETING

11	ON THE TENTH DAY AFTER ELECTION DAY TO ESTABLISH A RANDOM SEED FOR				
12	USE WITH THE SECRETARY OF STATE'S RLA TOOL'S PSEUDO-RANDOM NUMBER				
13	GENERATOR BASED ON PHILIP STARK'S ONLINE TOOL, PSEUDO-RANDOM				
14	NUMBER GENERATOR USING SHA-256. THIS MATERIAL IS INCORPORATED BY				
15	REFERENCE IN THE ELECTION RULES AND DOES NOT INCLUDE LATER				
16	AMENDMENTS OR EDITIONS. THE FOLLOWING MATERIAL INCORPORATED BY				
17	REFERENCE IS POSTED ON THE SECRETARY OF STATE WEBSITE AND AVAILABLE				
18	FOR REVIEW BY THE PUBLIC DURING REGULAR BUSINESS HOURS AT THE				
19	COLORADO SECRETARY OF STATE'S OFFICE: PSEUDO-RANDOM NUMBER				
20	GENERATOR USING SHA-256 AVAILABLE AT				
21	HTTPS://WWW.STAT.BERKELEY.EDU/~STARK/JAVA/HTML/SHA256RAND.HTM.				
22	THE SECRETARY OF STATE WILL GIVE PUBLIC NOTICE OF THE MEETING AT LEAST				
23	SEVEN CALENDAR DAYS IN ADVANCE. THE SEED IS A NUMBER CONSISTING OF AT				
24	LEAST 20 DIGITS, AND EACH DIGIT WILL BE SELECTED IN ORDER BY SEQUENTIAL				
25	ROLLS OF A 10-SIDED DIE. THE SECRETARY OF STATE WILL RANDOMLY SELECT				
26	MEMBERS OF THE PUBLIC WHO ATTEND THE MEETING TO TAKE TURNS ROLLING				
27	THE DIE, AND DESIGNATE ONE OR MORE STAFF MEMBERS TO TAKE TURNS				
28	ROLLING THE DIE IN THE EVENT THAT NO MEMBERS OF THE PUBLIC ATTEND THE				
29	MEETING. THE SECRETARY OF STATE WILL PUBLISH <u>BOTH</u> THE SEED ON THE AUDIT				
30	CENTER IMMEDIATELY AFTER IT IS ESTABLISHED <u>AND VIDEO EVIDENCE</u> OF ITS CREATION.				
	[Video of the creation of the seed for the PRNG will substantiate in				
	pubic the desired randomness. Publication of the seed allows replication				
	of the running of the PRNG for verification purposes.]				
31	SELECTION OF AUDITED CONTESTS. NO LATER THAN 5:00 P.M. MT ON THE				
32	FRIDAY AFTER ELECTION DAY, THE SECRETARY OF STATE WILL SELECT FOR				
33	AUDIT <u>ALL FEDERAL CONTESTS, AND IF APPLICABLE</u> AT LEAST ONE STATEWIDE CONTEST, AND FOR EACH COUNTY AT LEAST				
34	ONE COUNTYWIDE CONTEST. THE SECRETARY OF STATE WILL MAY SELECT OTHER ADDITIONAL				
35	BALLOT CONTESTS FOR AUDIT <u>SUBJECT TO ITS DISCRETION</u> AND SHALL IF IN ANY PARTICULAR ELECTION THERE IS NO				
36	STATEWIDE CONTEST OR A COUNTYWIDE CONTEST IN ANY COUNTY. THE				
37	SECRETARY OF STATE WILL PUBLISH A COMPLETE LIST OF ALL AUDITED				
38	CONTESTS ON THE AUDIT CENTER. THE SECRETARY OF STATE WILL CONSIDER				
39	THE FOLLOWING FACTORS IN DETERMINING WHICH CONTESTS TO AUDIT:				
40	(1) THE CLOSENESS OF THE REPORTED				
	TABULATION PRE-AUDIT OUTCOME OF THE CONTESTS				

1

[This language allows the SOS to add contests for audit and requires an additional contest if no audit is going to be performed because of local circumstances. Also the "pre-audit" phrase is again used.]

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1 2		(3)	ANY CAUSE FOR CONCERN REGARDING THE ACCURACY OF THE REPORTED TABULATION PRE-AUDIT OUTCOME OF THE CONTESTS;
3		(4)	ANY BENEFITS THAT MAY RESULT FROM OPPORTUNISTICALLY AUDITING
4			CERTAIN CONTESTS <u>INCLUDING THOSE NOT</u> <u>REQUIRED TO ACHIEVE A SPECIFIED RISK LIMIT;</u> [This change supports opportunistic auditing]
5		(5)	AND <u>,</u> DURING 2017, THE ABILITY OF THE COUNTY CLERKS TO COMPLETE THE
5		(\mathbf{J})	AUDIT BEFORE
6			THE CANVASS DEADLINE.
			[This change recognizes that the SOS should
			not be avoiding contests for reasons of
			difficulty once the RLA has become routine.]
7	(L)	NUMBI	ER OF BALLOTS TO AUDIT. THE SECRETARY OF STATE WILL DETERMINE
8		-	TIAL MINIMUM NUMBER OF BALLOTS TO AUDIT <u>AND SUBSEQUENTLY, ANY</u> ONAL NUMBER NEEDED FOR ESCALATION, TO SATISFY THE RISK LIMIT FOR
9			ED CONTESTS BASED ON THE BALLOT MANIFESTS <u>AND OTHER DATA</u> ITED BY THE
10		MINIM	IES. THE NUMBER OF BALLOTS TO AUDIT <u>, ABOVE A PER-COUNTY</u> <u>JM OF SIXTEEN,</u> – WILL BE DETERMINED ACCORDING TO FORMULAS IED BY
11			
13		E TC	
			t clear, I am recommending that the SOS not specify exactly the ballots
		and on	ly the ballots required to audit to the counties at each moment. Instead,

and only the ballots required to audit to the counties at each moment. Instead, the PRNG should be used to generate a very long ordered list of ballots, in a random but specific order. The SOS AC then shows to the counties separately an initial number of items on the list to audit (with a predictable minimum of 16) and then subsequently if necessary requests an additional number to be audited from the same list already provided. That allows the counties to audit ahead of the requirement if they have the resources in place to do so. It also means that the PRNG need not be run again. The small changes below also support this efficiency measure.]

32 33	(K)	RANDOM SELECTION OF BALLOTS FOR AUDIT. THE SECRETARY OF STATE WILL
34 35 36 37 38 39		PUBLISH AN ORDERED LIST OF RANDOMLY SELECTED THE INDIVIDUAL BALLOTS FOR REQUIRED AND POSSIBLE ESCALATED TO AUDIT. THE SECRETARY OF STATE WILL USE A PSEUDO-RANDOM NUMBER GENERATOR WITH THE SEED ESTABLISHED UNDER SUBSECTION (H) OF THIS RULE TO IDENTIFY INDIVIDUAL BALLOTS AS REFLECTED IN THE COUNTY BALLOT MANIFESTS. THE SECRETARY OF STATE WILL NOTIFY EACH COUNTY OF, AND PUBLISH ON THE AUDIT CENTER, THE RANDOMLY SELECTED BALLOTS THAT EACH COUNTY MUST AUDIT NO LATER THAN 11:59 P.M. MT ON THE TENTH DAY AFTER ELECTION DAY THE LIST OF RANDOMLY SELECTED BALLOTS SOME NUMBER OF WHICH EACH COUNTY MUST AUDIT. THE SECRETARY SHALL ALSO PERIODICALLY PUBLISH AS NEEDED THE REQUIRED NUMBER OF SUCH BALLOTS FROM THE LIST TO BE AUDITED. A COUNTY MAY AUDIT ADDITIONAL BALLOTS FROM THE LIST AT ITS DISCRETION.
		sentence with the deadline removes a possible confusion.]
	40	25.2.3 CONDUCTING THE AUDIT
	41 42	(A) THE AUDIT BOARD MUST LOCATE AND RETRIEVE FROM THE APPROPRIATE STORAGE CONTAINER EACH RANDOMLY SELECTED BALLOT. THE AUDIT BOARD
		Page 21 of 23
1 2		MUST VERIFY THAT THE SEALS ON THE APPROPRIATE STORAGE CONTAINERS ARE THOSE RECORDED ON THE APPLICABLE CHAIN-OF-CUSTODY LOGS <u>KEPT OUTSIDE EACH CONTAINER</u> . [I hope this is self explanatory.]
5 9 10 11 12 13 14	(C)	WITHOUT EXAMINING THE CVR, THE PRIOR TO ANY EXAMINATION OF THE CVR (INCLUDING THE DOMINION AUDITMARK), THE AUDIT BOARD MUST EXAMINE EACH RANDONLY SELECTED BALLOT OR VVPAT AND REPORT THE VOTER MARKINGS OR CHOICES FOR ALL [ACTIVE] CONTESTS WITH OPPOSITION IN THE BALLOT USING THE RLA TOOL OR OTHER MEANS SPECIFIED BY THE SECRETARY OF STATE. IF SUPPORTED BY THE COUNTY'S VOTING SYSTEM, THE AUDIT BOARD MAY REFER TO THE DIGITAL IMAGE OF THE AUDITED BALLOT CAPTURED BY THE VOTING SYSTEM IN ORDER TO CONFIRM IT HAD RETRIEVED THE CORRECT BALLOT RANDOMLY SELECTED FOR AUDIT. IF THE SCANNED BALLOT WAS DUPLICATED PRIOR TO TABULATION, THE AUDIT BOARD MUST ALSO RETRIEVE AND COMPARE THE MARKINGS ON THE ORIGINAL BALLOT. THE AUDIT BOARD MUST COMPLETE ITS REPORTS OF ALL BALLOTS RANDOMLY SELECTED FOR AUDIT NO LATER THAN 5:00 P.M. MT ONE BUSINESS DAY BEFORE THE CANVASS DEADLINE. THE AUDIT BOARD SHALL UPLOAD A COLOR PHOTOGRAPH OF EACH SIDE OF EACH AUDITED BALLOT IN ADDITION TO THE DIGITAL FILE CONTAINING THE VOTING SYSTEM SCANNED IMAGE. [Here is the only recent draft change that I recommend against. The capture of the data from the audited ballot should be a blind test and not done with advice potentially taken from the original adjudication. This is a very basic principle of auditing. The reference to all "active" contests with opposition is a mechanism for opportunistic auditing - something that will be extremely valuable in early instances of implementing these audit rules. "Active" may for practical purposes in 2017 be all contests on the ballot or if it is possible to determine which contests have met the risk limit, "active" are those that have not yet met the limit. The photograph will be invaluable in reviewing the audit after the fact to understand the decisions made and to evaluate the quality of the audit. The ability to compare the photograph to the scanned image will also give invaluable understanding of the voting system for those who are not present to see it in person.]

15 16	(D)	THE AUDIT BOARD MUST INTERPRET VOTER MARKINGS ON BALLOTS SELECTED FOR AUDIT IN ACCORDANCE WITH THE SECRETARY OF STATE'S VOTER INTENT
17		GUIDE <u>AND COLORADO STATUTE</u> . [Colorado Statute calls for ballots to be interpreted according to voter intent. The voter intent guide provides additional advice to provide for consistency but may need to be extended with statutory interpretation in some rare cases]
18		TO THE EXTENT APPLICABLE, THE SECRETARY OF STATE WILL COMPARE THE
19		AUDIT BOARD'S REPORTS OF THE AUDITED BALLOTS TO THE CORRESPONDING
20 21 22 23 24		CVRS AND POST THE RESULTS OF THE COMPARISON AND ANY MARGIN OVERSTATEMENTS OR UNDERSTATEMENTS ON THE AUDIT CENTER. THE RLA WILL CONTINUE UNTIL THE RISK LIMIT FOR THE AUDITED CONTESTS IS MET OR UNTIL A FULL HAND COUNT RESULTS. IF THE COUNTY AUDIT REPORTS REFLECT THAT THE RISK LIMIT HAS NOT BEEN SATISFIED IN AN AUDITED CONTEST, THE
25		SECRETARY OF STATE WILL <u>SPECIFY A NUMBER OF</u> RANDOMLY SELECT <u>ED</u> ADDITIONAL BALLOTS <u>FROM THE</u> LIST FOR
26		AUDIT.
		[Once again, the more flexible and efficient separation of list of ballots to be audited and the number to be audited is supported by this language.]

E) WITH THE CANVASS REPORT, THE COUNTY SHALL SUBMIT A REPORT BY THE AUDIT BOARD OF ACTIONS TAKEN AND EXCEPTIONS ENCOUNTERED, INCLUDING ANY DIVERGENCE FROM EXPECTED OR STANDARD PRACTICE, AND A DETAILED QUANTITATIVE ACCOUNTING OF WORKLOAD INCLUDING NUMBERS AND HOURS OF ANY AUDIT PERSONNEL.

[This language is intended to be sure that we capture the quantitative and qualitative data needed to continue to improve the quality of the audit and to support more challenging multi county, intra-county contests for 2018.]

[Thanks very much for the amazing amount of work that has gone into this document, and the work behind it that makes the risk-limiting audit possible. The nation will gain great benefit from this work in the next few years, as well as the benefit to Colorado to be obtained from an efficient and effective tabulation audit. Harvie Branscomb -email no need to redact - harvie at electionquality dot com]