

## Dwight Shellman

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**From:** Harvie Branscomb [REDACTED]  
**Sent:** Wednesday, August 12, 2015 9:55 PM  
**To:** Dwight Shellman; Steven Ward  
**Cc:** [REDACTED] Teak Simonton  
**Subject:** [REDACTED] PERC public comments for Aug 13  
**Attachments:** Branscomb\_PERC\_Aug13\_2015.pdf

Dwight

Here is my contribution to the PERC process for today.

There is more than a days work here and I hope it is useful for the process and for the record.

Harvie Branscomb

What follows is a transcript by Harvie Branscomb of the Aug. 6 CO PERC meeting for portions related to Harvie Branscomb's public input to that meeting. I have annotated the transcript with answers and comments and corrections within [square brackets] with highlighter. It is not my anticipation that this lengthy record will be reviewed and responded to at the August 13 meeting, but it is my hope that these comments will be acknowledged and folded into the process at the appropriate times.

Thank you very much for spending time discussing the various proposals I made to the Aug 6 meeting. These focus on a variety of forms of data collection.

Importantly the EAC is as I write this holding a conference on uses of data in elections in DC and two election directors from Colorado counties are there speaking. They both seem strongly supportive of using data collection for performance metrics in election management. I hope that their excellent advice will reach the ears of PERC members as they attempt to evaluate the 4 pilot voting systems in use for the first time in Colorado. In these Colorado specified configurations these systems may be encountering first time use in any election.

The decision to reject a voting system from use in Colorado will have lasting public policy impacts. If only one vendor is eventually chosen that particular decision is of immense importance and will affect the quality of elections that determine where power will reside and where money will flow. Any incremental cost incurred to render this decision responsive in a verifiable manner to established criteria for quality would be justified. Please do not lean toward treating this as just another election operated with barely sufficient resources. That would be a lost opportunity that will affect Colorado for years to come.

[Annotated transcription follows. I apologize for any mistakes in the transcription and acknowledge that I have omitted meaningless words where the net result is only clarification.]

29:00

Dwight Shellman (DS): This is a difficult issue for me. Harvie in several of his comments really wants the pilot elections to be forensically documented from start to finish. Secretary Williams really believes this should be as transparent a process as possible. But we are dealing with countervailing concerns here. We are dealing with the resources available to the pilot counties. We are dealing with the facilities that they have to work in. We are dealing with the need for security of election equipment and ballots and the like.

[ Yes there are countervailing concerns but the credibility of the decision and its effect on the national scene will be much bolstered by good process and documentation. ]

I guess as a general proposition I personally am reluctant to impose the full panoply of Harvie's recommendations because I frankly think that if we did so we would end up with zero pilot counties.

Teak Simonton (TS): Well I have another thought on that and I don't disagree with what you are saying but there are a lot of good questions. I wonder if there is some sort of a less onerous way to get at some of this information - understanding that the time involved is not necessarily going to be all that valuable because you've got human beings who have different capabilities and make mistakes or are more efficient or less efficient and I wonder if there is a possibility of someone - you know - like you or Ben doing like a verbal interview with people who are really involved at some point post and going back through and saying now let's talk about ballot design.

Give me your impressions. Kind of get at some of these questions in a less "write it out" kind of expectation and get a sense and then you can... If its the same people doing the interviews - right? - you're going to know "oh we had a really hard time but we couldn't remember our password" or you know "we had a really hard time but we realized that we hadn't done something or other" - I mean there is going to be all these [unintelligible] involved in all these questions. Maybe something like that would be... accomplishing some of these things would be easier and less intimidating to the host counties. I don't know what everybody else thinks.

Moreno? I want to go back [unintelligible] - how about the word efficiency?  
[stopped transcribing here because of a side topic] 31:40

33:20

DS: Let me see if I can identify it specifically. I just can't remember in which comment he raised it. He did at some point request you know maybe we should require examples from each pilot county really of every report the system is capable of producing.

TS: Is that in the system documentation?

DS: It is in the system documentation. But I just don't know how onerous that would be on the county. Let me back up. I believe that all of these pilot counties tend to use this new voting system in conjunction with the statewide mock election that starts next week. It's really a training opportunity for everyone in the state to refresh themselves somehow to build and conduct an election in SCORE. But at the end of that you have an election database in SCORE which you can export and then import into your new voting system and complete the process after you do the work in SCORE. Its one purpose of (I hope) my conference call with the counties tomorrow to determine their plans on that. So it may be that we could really request examples of the reports the system can provide in connection with that before they get into the actual election.

TS: So as part of this mock election is everybody going to be printing ballots and running them through their scanners and everything? they haven't gone to that degree before I don't think.

DS: I think most counties don't do it to that degree. My sense is the pilot counties see this as an opportunity to do an election before an election and so I think they may give it the whole cycle which will be unusual but it will be great.

TS: Yes.OK.

DS: But I think Harvie raises valid comments in the sense that for an election official and for members of the public and frankly for the Secretary of State's office actually seeing what those reports look like and what they can do is important and not just relying on the county staff to say good or bad.

TS: Well and good or bad is definitely going to be based on what they had before.  
[ and this is why outside evaluation of the documents from a live election where system to system comparison can be performed is crucial. The perspective of evaluation of these reports is not limited to election officials- it ranges through to campaigns, parties, watchers, canvass boards, SOS and the public.]

DS: Right.

TS: The people who had Hart before might have one impression the people who had Dominion might have a completely other.

[again a reason to try to make the evaluation comparative and more quantitative]

DS: So let me find out more about their plans and I will update you at the next meeting on that. I am just so reluctant to say you have to do all this work when you are trying to use a new system for essentially the first time in an actual election. They have plenty of things they have to worry about. I want to get at the information we need but I don't want to make it so onerous on them that they don't even want to do this.

[ important- this is not only perhaps the first time for the officials, it may be the first time for the system as well- and that is the reason to collect more information ]

...

DS:unintelligible... He submitted two comments, one at 12:49 PM yesterday; one at 1:45PM yesterday. Just for the public record - just referring to his 12:49PM comment - he raises the point and I think it is a valid one - is that we are soliciting feedback from counties and the possible problem is that the county users themselves become advocates for the system they are using. As Teak noted I think that is a very natural reaction because any of these systems are just so much better and I suspect so much easier than the legacy systems that it will be a very natural thing for counties' election staff to fall in love with whatever they are using. I think that is a valid point. However I also think it is a valid point that we want to make sure that the people who are principally using this software and these devices - we want to know how they feel about it and regardless of their inclination to become advocates for their system I think we still want to capture that information.

[ there is no downside to collecting qualitative reactions to elements of the system, but the usefulness of this data is questionable compared to the quantitative data that could be collected both from the systems and from the officials. Election officials also have a disinclination to chime up about problems with their systems regardless of the pilot. ]

Harvie recommends a couple of additional things we might do that I just like to throw out to the committee for further discussion. In order to make the entire evaluation process more quantitative than qualitative for example in paragraph A and B of this 12:49 comment he provides examples of some questions we could ask about database and ballot design - how many hours did it take to create the database, program the ballot artwork, etc. That is quantitative but frankly I don't know if that provides meaningful information because these people are using these systems for the first time - seven of them are. Denver used at least the species of the system in the municipal election. So Denver has a leg up. In addition, Denver's database design and creation methodology differs from every other county I know. Denver doesn't have special districts. It has a city government that provides all services. So it doesn't end up with the vast multitude of precincts. In speaking with Jimmy over there who does a lot of that work he told me that he has always manually created his database. He doesn't import the SCORE information.

That is virtually impossible for most counties in this state because of the way special districts and all of the political subdivisions can stack up on a ballot. My concern there is that finding out how much time it takes to do this is really finding out how much time it took them to feel

comfortable they got it right.

[ it is crucial to recognize the experimental bias inherent in this evaluation process- including details such as Denver's unique simplicity of districts - or the previous experience of the county officials – or their fastidiousness in performing their role - of course the evaluation has to accommodate the subjective and objective differences of the pilot counties and this is a real challenge here. ]

TS: Well even if I think about my various elections and I think about last November's election vs. this November's election how much of it depends on how much did I remember - and I did the same thing - I do my ballots from scratch - unintelligible - and that's my comfort level - going and getting everything right - but a lot of it depends on if I spelled everything right - especially with Hart if you miss one spelling word you have to completely delete the election, make another copy, open the ballot then finalize it, then load your cards - I mean its very painfully cumbersome but its based on how efficient and on track I am as an individual - so that's where this is so subjective - how did that individual learn when they were trained? That determines how many times they might have to call the vendor for help. I wonder if like a,b these questions that he has - is not this information known to - who is involved with the temporary certification of these systems- is that Jerome?

DS: Jerome, Danny and Jessie

TS: So they have looked at all of the systems, right? And they know how the ballot creation and election database occurs - do they to that level?

DS: They have a good understanding of how that works but this certification campaign is very different from the one that they did in 2007, 2008. In that campaign as I understand it - its before my time in elections - they actually did most of the testing themselves. That was not possible this year. We had to rely on federally accredited test labs. So their understanding of the system is very thorough but its based on documentation provided by the providers and test reports from the test labs. They have not had an opportunity to do hands on work with these systems. So they are not going to be a good resource for that. I guess what I am suggesting here is I don't mind asking for this information. I'm just not sure its going to be meaningful for a fair comparison. It doesn't hurt to ask for if you decide what to do with it later.

[ so there are no existing experts within CO with existing experience that allows comparison of the various systems - likely there are none outside CO as well ]

TS: That first document that I sent you many many moons ago - like after our first meeting - I think I chunked it out by type of process and in that document it had specifics - can you change the font? can you correct an error? You know really getting to the degree that with the training that was provided and the documentation did you feel like you had the tools you needed to fly solo? Or did you feel like every time you had a keystroke you had to call the vendor for help and that's important to know too. That will make the primary for the new counties painful. So I think we could get at this information in a more meaningful way where we would get better information. After you have proofed and you needed to make adjustments how difficult was it to make those changes and then reprint for proofing. Did you have flexibility with the different ballot styles so that you could minimize the cost of the ballot size. Like with Hart you have to go with the biggest common denominator. You don't have any choice. And so can you have 8 1/2 by 14? Is there flexibility more than anything - is it kind of a smart ballot creation system? That's why I think the individual interview could dig at those types of questions.

[ the certification process will not have adequately evaluated the systems based on criteria such

as convenience for operator, fulfillment of training via user guides, usability for verification via reports and logs, ability to be effectively watched, etc. This extra practical evaluation is much needed and will if properly documented be informative to other states as well ]

DS: I'm just wondering. I have the Pilot Election Review Committee website ... [unintelligible] ...

TS: You know Dwight, the other thing that I'm thinking would be really helpful not from the pilot counties but from the counties that are using their legacy systems which they only use once a year basically is as we are starting this process in creating our elections if there is stuff that we absolutely can't stand and we hope that the new system has it - we should write those things down. [ this is an excellent suggestion that has been disregarded in the past when something similar was suggested - it would have best been asked well before the RFI and RFP process. I do hope that officials were willing to answer this question but I fear that they may not be willing to answer - and that lack of willingness to answer is a symptom of a problem for Colorado in choosing the most effective system(s) ]

DS: Let me make a note on that. Tomorrow we will send out in the Week in Brief - tell us everything you hate about your election system.

TS: Right as you are going through the mock election as you are going through this year's election write down the things that you hope the new systems going to have in terms of ballot creation. Then those will be good questions - can you change the font size? They just did a big presentation in wherever it was - Rifle and I am sure I am going to hear it next week on best design for ballots. Well I said to my chief deputy: I can't do any of that stuff. I can't put bullets in, I can't change the fonts, if I copy and paste it differently I can change the font but not the font size. It's just completely inflexible. You know everything is left justified - you can't put spaces in reasonably - it's extremely complicated to do it - it's like pipe-sign space pipe-sign and sometimes that eliminates everything that comes after the pipe-sign so you are going back and forth and back and forth - it's extremely difficult.

[Unintelligible speaker asking about details]

TS: We have never had the question. We would give them a magnifying sheet. [unintelligible] In an extreme situation I would reprint the question from Word and just print it in a bigger font to give to them or maybe... I don't know we haven't had that question.

?: [unintelligible] and then you wouldn't have privacy or secrecy - that person's ballot would be completely different ... [unintelligible]

TS: You know in my experience people want to vote and honestly they are not concerned. We tell them what our processes are - the overseas and military people - they don't care. We know its going to be handled correctly. They don't care - we have a job to do – obviously.

CT: You hit on something very interesting. This comes up from the advocacy groups that are concerned about integrity of the process, secrecy. But when I worked on the overseas UOCAVA modifications ...[unintelligible]... years ago with the Secretary of State ...[unintelligible]... the concern for the military representatives was they just wanted to vote.

TS: That's right.

CT:[could not transcribe completely] They didn't care if their ballot - they really wished their privacy. their ballot to be able to get back by email. It didn't matter. Its the guys on the line - the women on the line – yet its the advocates complaining that the election administrators have stripped the privacy away. No. They asked for the change. The folks that do and deal with the administrative process are the ones that facilitated that but it was them that asked for it. So it's that disconnect. I don't know if it is from lack of education or the lack of understanding from people on the other side who don't want to hear it. They don't hear it.

TS: They want to impose their ideas about whether the vote should be secure or not secure - confidential or not - on the people who are deciding that they would rather - you know its the only way they can vote. We have bipartisan judges in every step of the process. So you know... I don't know. I mean there is a limit to what you can worry about but if the people who are voting aren't worried about it I don't think its reasonable for...

CT:[could not transcribe completely] The last time we had UVS - why can't I remember her name... she is from the disability community and ... blind and she said “I don't care if they look at my ballot but I want to be able to do X, Y and Z.” To that extent it was even eye opening to hear her take that I just want to be able to cast a vote. [unintelligible] And she said: I don't have a sensibility for somebody else in the disability community. So for me this is what I care about. Because one of the issues that comes up is [unintelligible] what if someone else hears it? Well she said “I don't care if they hear it - you know that is why I have my headphones.” It was a series of things that came up and she said mind you my issue is vision but things that we take for granted other people don't care if they give it up because they want to [unintelligible].

TS: [unintelligible conversation]... if someone says no I don't want someone to see that you can vote on the machine we will not see its larger font, that sort of thing..

[unintelligible conversation]

DS: At least with respect to Harvie's - Chuck you there?

CB: Here.

DS: Alright we keep hearing dings. I think a lot of Harvie's comments are valid and I think we haven't captured enough quantitative stuff.

[ Thank you for the appreciation of my comments. ]

TS: And the other thing that gets some of this but it won't be consistent - when we are out there when this committee is out there observing any part of the process we should be taking copious notes as much as we possibly can.

?: [could not transcribe completely] So is there any way we can incorporate some of what Harvie is asking with the more in depth and even with Teak's take is but its the one on one not necessarily in the form that would capture the one on one conversations – find out if we could get some...

DS: Well I think what Harvie will say is whoever is doing the interview will color the evaluation. I don't know I guess my feeling is we can capture at least some of this probably not to the level

of detail that Harvie wants but I think they are valid points and so I'm trying to think...

[ Harvie thinks that a human interviewer using a questionnaire form as a guide is more effective than the survey alone. I do support the idea of interviewers who can provide some comparative context. ]

--> TS: I think there are some things in here that we can pull out and put on that county evaluation - can you cross check tabulation by adding votes to overvotes, undervotes to make sure the total votes equals the sum of those parts - there are some things in here that could be very easily added and then they would become very consistent – either it does or it doesn't – but not like well it did for me but it didn't for the county next door - kind of thing. Right?

DS: Right

TS: I mean how many damaged ballots - I don't know what that has to do with choosing a system. That's voter dependent right?

[ the rate of detection of damaged ballots is very pertinent to the evaluation of the voting system - some systems will be very tolerant of damaged ballots while others are not - so to the extent that the need for duplication increases because of the design of the system we should be looking at this. Also there may be an effect of ballot design styles on the way the voter marks the ballot in a manner that damages its ability to be tabulated ]

DS: Right. And there is a lot of this that I just don't think is worthy of evaluating - what are the rejection criteria for a ballot? Basically a blank ballot or an overvote. So.

[ Dominion has a threshold for mark density detection that effectively rejects a ballot, causing it to be adjudicated without duplication. Other systems require duplication. Does this same threshold apply to a scanner used in a vote center where the rejection puts the ballot back in the hands of the voter? There are many things to be learned before we can effectively evaluate these systems in competition ]

CT: Is he trying to get to the point of the mark on a ballot is not deep enough so that the machine spits it out?

DS: Those are legitimate questions. But to me that's not meaningful because voters get instructions and if they follow the instructions you should not have any questions. If they don't follow the instructions then we have a question and we have statute and rules and procedures that we follow to fairly adjudicate those. Teak do you want to take a crack? I was looking on our PERC website because I remember receiving that very extensive list and I thought I put it on our website as a public comment from you but I'm just not seeing it. I do have it. I can find it and send it back to you. Would you mind taking a crack at revising the county evaluation form to incorporate...

[ Yes these questions about differences in machine and human handling of ballots before and after mark detection are relevant to the evaluation of the system ]

TS: No I wouldn't mind.

DS: That would be great. If there is any way you could get that to me by like - you are here next week aren't you?

TS: Yes

DS: I am just trying to figure out a way to circulate this to the public to give them an equal opportunity to comment. I just don't...

TS: I don't think I can get it done by Thursday. Maybe the next meeting or something.

DS: Let me do this. Let me take a crack at it. I have your comments.

TS: OK.

DS: I'll take a crack at it and generate another draft. I want to circulate it to the counties tomorrow so that they know which direction we are going in. That way I can also circulate it to the members of the public tomorrow. We can get more comment. [unintelligible]

[ It is 2:18PM on Wednesday before the meeting tomorrow and I have not seen such a work-up on the county survey, so I presume this well intentioned effort did not take place or it has not been revealed to the public ]

TS: I have a suggestion. With the Week in Brief sometimes - we have been getting Weeks in Brief for years and years - if somebody has a busy Friday or they don't get around to it they think its informational - they are not looking for a call for action or information from those - so if you have a county clerk distribution list or even an election director manager whatever distribution list I would send it proactively rather than embedding it in that -

DS: OK. We will do that. Let's turn to Harvie's comments with the time stamp of 1:45PM. Oh I am sorry Harvie's comment is actually 9:50 AM. Thank you.

Comment number one: as I indicated earlier we are requiring many of the providers to revise their documentation to meet the formal requirements. Once that is done we will post redacted versions of that on that new page I mentioned earlier. I hope we can accomplish that by Monday or Tuesday. Then Harvie can look through it and decide what he wants to ask for with more specificity.

[ I am willing to participate in making suggestions for what documents to obtain. I do now have a list from Denver of Dominion reports- but even these do not apparently include a system audit log or the report that would indicate what thresholds are set for adjudication and other parameters that control voter intent capture. Yes it is important to make sure that a minimal set of crucial documents are obtained. ]

Comment number two starts of with PERC is empowered to create conditions for use. That is actually not true. The conditions for use are promulgated by the Secretary of State and recommended by the voting system team. Again he requests that all vendor documentation be posted. We are going to do that we are just not there yet. I would love to get an example of every single report every single system can generate. I just am concerned with overloading pilot counties because they have so much work ahead of them anyway. I don't have a good idea how to handle that.

[ The published letter to the vendors and counties says on page three: "4. The Clerks and Recorders and their staff must complete, distribute, collect, and submit to the Pilot Election Review Committee the UVS evaluation materials, currently under development. 5. The Clerks and Recorders and their staff must comply with all reasonable requests of the Pilot Election Review Committee, as it evaluates the performance and functionalities of the voting system; 6. I reserve the right to promulgate other conditions of temporary use, as circumstances warrant or the Pilot Election Review Committee may

request.” It seems to me that the PERC is well empowered to obtain information and restrict the process of the pilot for its purposes. ]

Connie Ingmire (CI): Hey Dwight this is Connie.

DS: Hi Connie

CI: Can the vendor provide all those documents for Harvie? As examples?

DS: Well honestly they may be able to but the vendors are also extremely busy. The temporary approval process was a real grind for all of them and now they are deploying equipment and going out to support counties.

CI: Yes, thats true.

DS: I do think that this committee needs to get examples of actual reports from actual systems in actual elections. I just don't know that it's fair to the counties to go as far as to give us everything the system can possibly produce.

TS: Why don't we ask for the actual reports that they do produce to get the job done either during the mock election or testing? And they are going to have to print basically all the reports during testing. So we could just ask them to make copies of those so we can have those to review. I think that would be maybe a good compromise to get the information. We wouldn't necessarily get every report but we would get the useful reports.

DS: We ask the counties at a minimum give us every report that you generated and used - we want to see all your ballot proofing reports.

TS: Yes that is exactly what I am saying. Everything not just in tabulation.

DS: Right

TS: So every time you print something, print two copies and put one in a folder for us.

DS: OK. We can do that as a condition of use.

TS: Yes.

[ I support the idea of obtaining copies for PERC of vital documents used in the election, but also at some point, perhaps post election day, a collection of documents that would be used for forensic evaluation of a narrow margin election or an election under investigation by the SOS. Also I would strongly advise against obtaining only one paper copy of printed reports. Printed reports will be next to useless for an evaluation while electronic reports can be easily shared and annotated for evaluation. Please encourage the collection of electronic reports where possible to avoid the need for massive scanning and OCR of these reports later. ]

DS: OK. Harvie also wants us in paragraph three he wants us to require basically cast vote records and make them available under CORA. The clerks and recorders are the custodians of those documents. They are the ones who are obliged to file CORA. I personally do not think it is appropriate for the state to step in and start dictating that.

?? I agree.

DS: We are - Secretary obviously wants all counties to be as transparent as possible but at some point voter anonymity comes into call - that's up to the clerk and recorder to decide.

[unintelligible]

[ Here is a serious misunderstanding. My request is as follows:

*"3) PERC and SOS should require the **preparation** of ballot scans and cast vote records for **possible** release under CORA for the time they legally become available. This means privacy redaction at state paid and published cost and publication of a description of how and how often the redaction was done. That process ought to be completed by the first available CORA release date."*

**This proposal does not interfere with the CORA authority/role of the county nor does it produce cast vote records.** What it does is make sure that redaction necessary to accommodate CRS 24-72-205.5 is complete- something that **PERC will want on its own** in order to be able to see the vital documents of the pilot elections. There will presumably be a cost associated with the checking of ballot images for this purpose and the state will need to pay this cost in order to have access to the records for evaluation. It is necessary both for cast vote records and scans of ballots and for any observation of paper ballots themselves. These piloted voting systems all include the very constructive ability to provide ballot scans and associated cast vote records that can be used for auditing purposes, and are ideal for a deep evaluation of the accuracy of the systems as part of the pilot project. This post certification evaluation can be made by PERC but also by the public, but neither until the CRS 24-72-205.5 process is complete. Please make arrangements for timely access to these crucial records of the elections – one of the most salient improvements that these systems all enjoy. The evaluation of the voting systems must not ignore the opportunity to compare cast vote records to ballot scans beyond what one of the counties for each system will do as a RLA with the same records. ]

Its just not realistic for us to videograph every observation visit by the SOS's office or members of the committee.

[ My suggestion is not that all observation should be videotaped, but rather an example of each physical process be recorded in a non-privacy-invasive way in order to review differences between systems and document the project for those who were not present. This is a lower priority suggestion, but it is reasonable. During the Coffman recertification hundreds of hours of video tapes were recorded and the extent of that effort was excessive and the results rendered inaccessible. I am not suggesting a rerun of that effort. ]

Number 5 I think is actually a valid point. We do not yet know which of the pilot counties are going to deploy what we used to call precinct tabulators that would be used to scan paper ballots. Two of the systems basically have that capability. Hart and ES&S. I don't know if those counties will actually deploy the precinct tabulators or they'll ask paper ballot voters to put 'em in a box and bring them back to central counting. But to the extent they use them we should probably consider asking those voters for their experience with the scanning process.

TS: Were there counties in 2014 that had that model in the VSPC where they had the mini kind of polling place where the voter actually voted a paper ballot and fed it through the optical scanners?

DS: I am sure there must have been. That's just the way - especially with some of the smaller counties - that's the way they have always done elections.

?: [unintelligible]... Is Broom? Did Broomfield?

DS: Broomfield did. They did.

CT: Not major VSPCS but almost like still a precinct breakdown?

DS: No no. It would be - we call them precinct tabulators because that's where they were originally designed to be used but

[unintelligible]

DS: ...its basically a scanner that will scan all ballots cast at now a VSPC and it will individually tabulate just those ballots at the close of the election.

CT: [unintelligible]- in 2014. I think in Douglas County they did

DS: The same thing?

CT: I remember going in and getting a ballot [unintelligible]

DS: The new systems give much more information in a much better way than the old system. There are now screens on top of the tabulator saying "you undervoted this race - did you really mean to do that?" the old ones didn't do that. The new ones make it very clear that this has been overvoted or why are you casting a completely blank ballot- for example. We can ask. Let's find out...

TS: Let's find out what the four pilot counties are going to be doing.

DS: Right. I'll raise that in my call with them tomorrow.

[ I am not aware that Broomfield does VSPC scanning. I do know counties that do. Clear Creek, Summit and Garfield have all done precinct scanning in elections and or used precinct scanning hardware for purposes of central count. It is important to make sure that this capability is tested for counties who make a decision not to central count all ballots or not to use the central count equipment for central count purposes. It would be unfortunate if the pilot process simply ignored this voting method and it therefore became impossible to facilitate under a UVS. ]

Paragraph 6: this "super-LAT" that he is proposing. With all respect Harvie I just do not think this is practical. The rules say how a LAT must be conducted - basically requiring each marginally marked ballot to be inserted 10 separate times and separately tabulated - that process will take two weeks. It's just not doable.

[ This is another serious misunderstanding of a very constructive and efficient method of testing that is neither disallowed nor is it impossible. What I propose is to batch the marginally marked ballots together and sequentially scan the identical batch ten times by simply moving the contents of the output tray to the input tray and continuing the scanning process. This will take a minimal extra amount of time but it may likely reveal inconsistency in mark detection for marginal marks. I have used this exact method to demonstrate inconsistency with Eagle County ballot scanners prior to their being taken out of service. Please reconsider this important technique. Also this crucial LAT for the pilot should not be limited in scope to only 25 ballots per party. The LAT is limited in rule to save time but this pilot is a very poor place to protect the "efficiency" of the voting system by cutting back on time spent. We will

already in most cases see a huge improvement in test efficiency because of replacing DRE with ballot marking devices. Please do not starve the LAT by limiting the number of ballots or number of times ballots may pass through a scanner unnecessarily. ]

TS: And it seems to me that should be part of certification. And that is part of the accuracy and consistency of tabulation.

DS: The one thing we could do is request not require is request the counties to encourage their testing judges to mark the test board ballots like we all know voters actually mark ballots. And see what happens. I think that is useful information. But requiring...

?: I think that's what we discussed whether they are going to pre-mark test ballots or not. I know some counties do pre-mark [unintelligible] ...

DS: No its still required but I don't think we ever discussed encouraging the counties to have their test boards marginally mark some of those ballots.

TS: You know the problem with that honestly is that you are going to have - who knows how a voter is going to cast their ballot. I mean you are going to have these crazy voters from time to time, not every election, mark it in yellow highlighter or put an X in and they are just hitting that target mark or maybe they are just getting outside of that target mark. You can't say in this county they put in check marks and they were all caught and they had this system, and in this county they had checkmarks and they weren't caught. So much depends on where the checkmark was. Years ago John Gardner [unintelligible] - he put ketchup on them - he put mayonnaise on them - he put motor oil on them - and all different ways - but that is completely crazy. Nobody would send a ballot like that and if they did we would remark it as damaged. Are you going to get any information out of that other than the fact that every oval or square or whatever happens to be the voting target is going to have the number of pixels I guess within that target mark where it is going to catch something and where its not. And also darkness. If someone rests their pen on it. But if they put a Sharpie down on it with a dot then it might catch that. So are you going to just get a bunch of information that is un-useful? That is what I think. I think that is something that should be determined - like how big is the target? If you have a small corner that's gets nicked is that going to be counted? Or is it going to show as an overvote? Or if it's really light pencil as opposed to number 2 pencil is it going to catch that? Is that not considered in certification requirements and testing?

[ I agree that the Gardner foreign liquids test was unnecessary but it was touted as proof of a bulletproof test and I doubt that it was. It is crucial that we test systems with examples of realistically marked ballots including those that usually cannot be interpreted by machine. These systems have diverse methods of adjudicating voter marks and that facility will be important to compare- in some cases the differences only appear with marginal marks. ]

DS: I am not thinking of a specific requirement that addresses that. That may just be me. I'm just not thinking [unintelligible]. I think my experience was what every county has done is just through a history of using the system really begin to understand...

TS: Right.

DS: Its capabilities and its limitations.

TS: Maybe there is some way that we could direct the counties during testing to take 25 of their ballots and mark them exactly like this - take a number two pencil, take a black sharpie, take a red pen, do a check right through the middle to a check that cuts through the corner so we would have something to compare. Maybe its only ten ballots but at least we do have something to compare. Are they all ovals by the way? Please say yes.

DS: I don't remember, Teak. I think they are.

CT: I am thinking of when we went to the Denver election in May. If I remember correctly part of their system was that it was in the calibration of the machine [unintelligible] voting that they designated a percentage of how it would pick up a mark and I don't know if that is going to be a part of the systems that are going to be piloted to be able to say well ... I don't remember the gentleman's name from Dominion but I remember him saying all in that mark sense and what percentage they would put it at before the election. And it was all calibrated 97 or 99% accuracy or whatever.

DS: That is a configurable setting for each election. You set a threshold - if it is below X we are going to treat that as just no-vote. We are not going to look further at it. If it is between X and Y that's questionable. That's going to be automatically sorted by the software to adjudication [unintelligible] software. And then if it is above Y that's a vote and we are not going to look at it.

TS: Well that needs to be the same in each county though right?

DS: We don't have a specific Colorado requirement on the sensitivity threshold settings. We haven't frankly grappled with that yet. One vendor's 10% setting is not necessarily the same as a different system's 10% setting.

[ We do have systems in use now that are able to be calibrated and operated under best practices may be adjusted during an election (Sequoia central count scanner is an example.) We do need rules for making adjustments to voting systems where this is technically feasible. Not all of the 4 systems have user adjustable parameters for things like sensitivity, but at least one does. ]

TS: So hopefully once we get to the system [unintelligible]

DS: Right

TS: you can say they all will be the same.

DS: Oh yeah, right.

TS: This is what you can do. Every county has to be set up the same. You can't have it be Eagle County is accepting a vote at a certain percent and then Garfield is not. That would be disastrous.

DS: And we have just never been able to do that in the state because we have so many different systems.

TS: Right.

DS: Let me give more thought to number 6. I do see what he is saying but I think the exact way he proposes is just not practical. But I understand [unintelligible] things about what he is saying.

[ Teak does make a good point that it is useful to have a standard set of marginally marked ballots to get a quantitative result that can reasonably be compared. I suggest the LAT tabulate such a deck (10 times sequentially) with a deck of specified hand marked marginal marks separately from other LAT tabulations. Also I suggest there be a LAT test with uncontrolled marks and poorly treated ballots and such similar to what were made by election officials in attendance at the UVS demonstration where the vendors ran our test ballots. Our current SOS demonstrated how to mark and crumple a ballot for purposes of that test. These pilot systems will have different thresholds of damage to send ballots to duplication, and hence their resistance to damage on the ballot should be tested. ]

Number 7. What he is basically proposing is a complete hand count for one selected contest. I am very familiar with Harvie's methodology of hand counting. I think it is a good system for hand counting. But we are talknig about having to do this with potentially 40,000 ballots or something. It's just not doable. Do you all?

?? Agree. Yes.

[ Here is one more technical misunderstanding, I think. I am not proposing a full contest “sort and stack hand count”. I am proposing that during the pre-scanning ballot review (required by rule) the ballots be stacked and batched by contest choice for one contest only. Three stacks. I do not propose any extra hand counting of pieces of paper – but this brings up an important point. Some counties may do more hand counting of pieces of paper than others and this will affect their speed of processing and such. We should monitor the amount of handling of the ballots each pilot county does. ]

What I suggest is only a separation into separate batches for the statewide ballot issue- YES, NO and UNDER/OVER. If these are separately batched then the detailed accuracy of the voting system can be checked by looking at batch results for any anomaly without a post election check to go over every ballot or at a minimum looking at every image to compare it to a cast vote record. I understand that the certification tests did not do extensive high volume tabulation checks to confirm accuracy. We can really benefit from doing at least one per pilot system. This is the most convenient way imaginable to confirm accuracy of tabulation and the additional time required should be minimal. ]

DS: Number 8 is not practical under Colorado law. The location for a target area for a particular race depends on what else is on that particular county's ballot. The contests need to be listed in a precise order. If the county has 4 municipalities and county ballot content and state ballot content and 4 special districts that target area for that particular vote on that particular special district question is going to

[unintelligible]

TS: And conceivably some push to the back side.

DS: Right

TS: if you left blank on the front that would be horrible for voters

?? ballot dropoff?

DS:That would make a hand count faster.

CT: I can almost assure you that the first people who would have a problem with that are proponents of ballot initiatives either for or against or the proponents of a special district election [unintelligible] because the ballot the longer it gets, the less people pay attention.

TS: Not to mention the county clerks would take a huge hit for that if they had this crazy looking ballot with all these blank spaces and some on the back and some on the front people would be going "what the hell?"

DS: Yeah

TS: [unintelligible] drinking while they put this ballot together. Crazy.

[ This is really the most important of my suggestions and it deserves to go into general use for all elections. I have not suggested expanding the ballot onto multiple cards. What I have suggested is when possible to place the municipal and SD and other local elections on a separate side but still in statutory order. In other words do not squeeze a local election on the front of the card just because it is the next election in order after the county contests and there is space for one more contest. In its place you can write the text that directs the voter to turn to the back side. The value of this physical separation will be evident when the ballot scans are CORA requested and the physical ballot style per side becomes a means of identifying a ballot to a voter. This is not about hand counting efficiency even though that will become a factor in auditing. I would like a campaign to be able to CORA request copies of scans of only all front sides of ballots in an election and have freedom from a rare ballot style appearing because a local contest appears unnecessarily on the same side when it could have been on the back still following the statutory order. This concept should simply become a best practice. I regret the misunderstanding that it received from the committee. I do hope the PERC committee will come to understand the value of this concept. This is relevant text from CRS 1-5-407: *(5) (a) Whenever the approval of a ballot issue or ballot question is submitted to the vote of the people, the ballot issue or question shall be printed upon the ballot following the lists of candidates. Except as otherwise provided in section 32-9-119.3 (2), C.R.S., referred amendments shall be printed first, followed by initiated amendments, referred propositions, initiated propositions, county issues and questions, [page break] municipal issues and questions, school district issues and questions, ballot issues and questions for other political subdivisions which are in more than one county, and then ballot issues and questions for other political subdivisions which are wholly within a county.* What I am suggesting is that if there is to be a page break it should be where I have written it in above. This is an improvement that relates to the new systems simply because they produce ballot scans that will be CORA requested and we want to preserve the privacy of voters with these new systems. ]

DS: The comments from Harvie we just reviewed pertain specially to conditions for use. The first one pertained more to the county evaluation form. Just so everybody is clear the conditions for use in these systems are going to be or may be a work in progress. We are going to issue initial conditions and if we learn about something that didn't come up in testing or from you we may issue an additional condition. We are going to consult with the counties as much as possible in advance. That is kind of the nature of the beast in running pilot elections in this manner. His idea for conditions of use - many of them probably won't go in the first iteration of conditions for use but I really need to talk with the voting systems team about the practicality of some of this and we will see if they are appropriate to incorporate some of them [unintelligible].

I'm sorry just one more comment from August 4. I just want to recognize it. It is really about his

efforts to obtain data from Denver's election in May so that he can parse it and send it to us. That is fine but the question of what the Denver Clerk and Recorder provides to him is an issue for the Denver Clerk and Recorder and Harvie to work out. Whatever they decide upon [unintelligible].

[The Denver Clerk and Recorder has been helpful in supplying records that I am using to demonstrate the value of a deep analysis of items like ballot scans, cast vote records and when I get them, system audit logs. It is a matter of time to prepare a report of the election that will I hope be an example of what PERC can expect from a post pilot election analysis. ]

1:17:50 end of transcription as meeting takes up a public comment from another source.

[ I truly appreciate the chance to communicate with an important state public body on this very important topic. It may be a bit clumsy that the communication in one direction is verbal and in the other direction it is written. Nevertheless, I think that the project to select one or more state voting systems merits everyone's effort to have this dialog and the resulting public record is valuable. Thank you for your participation. Harvie Branscomb]