Dwight Shellman

From:	Harvie Branscomb ███████████████████
Sent:	Thursday, August 13, 2015 12:25 PM
To:	Dwight Shellman
Cc:	Al Kolwicz; ██████████████████
Subject:	Re: Pilot Election Review Committee - call for temporary hold.

Dwight
Al sent me a copy of his comments for PERC and I have some comments on that.

On 8/13/2015 10:56 AM, Al Kolwicz wrote:

> If PERC were making the lease/purchase recommendation for a fleet of state vehicles it would not attempt to actually test carburetors, or make sure that the wiring is insulated. It would assume that the vehicles work and meet standards. It would base its recommendation on comparisons of advantages and disadvantages between solutions.

What I understand that PERC is advising on is a replacement of a component (called the voting system) of an election system already in place. In Al's metaphor I see what DSOS refers to as the "voting system" as the equivalent of a windshield wiper for a car that has been purchased and is already being used. There are several vendors for replacement wipers some of which are newer and more innovative and perhaps some are more traditional and experienced. According to the overarching purchasing authority the competing wipers have been tested for sufficiency and now the relative merits are to be ascertained and compared. The wiper or wipers that provide the best visibility of the road will be selected for future purchase.

> PERC is ostensibly reviewing on the advantages, disadvantages of several sub-systems competing to fill a major role is Colorado's Election System – the voting sub-system. The work of the voting sub-system begins with ballot production and ends with publication and archiving of materials and final results. It involves several components – some of which have been federally certified, and some have not.

To be more accurate some components for some vendors are federally certified, but all are now tested to a Colorado test matrix by EAC accredited labs. The actual test matrix for these tests has not been made public to my knowledge but will soon - one hopes.

> A set of components is combined to form a voting sub-system. The committee assumes (rightfully, as it would in the vehicle illustration above) that each voting subsystem submitted for review meets all must requirements.

The committee is assuming based on the Colorado specified tests by test labs that specific "must" criteria for a voting system are fulfilled. So PERC has been discussing largely qualitative criteria for evaluation and now is fortunately reconsidering to add quantitative metrics. Al has expressed concerned that the existing tests are insufficient to meet all the "must" criteria for an "election system." He is right about that, but here we are confining the scope of the evaluation to the part known as the "voting system." An examination of the CO RFP responses and the test matrix may elucidate whether the tests are sufficient for a voting system. We know these tests are insufficient to evaluate an "election system" that incorporates eligibility and other issues.

Fortunately in my understanding of a paper ballot voting system there is a clear interface separating the "voting system" from the rest of the "election system" and that is the envelope or for in-person voting the ballot box. Outside the envelope and outside the ballot box identities are known and published and eligibility is checked, but inside the secrecy sleeve, inside the ballot box, anonymity of the ballot is maintained.

The "voting system" deals only with the artifact that is in the secrecy sleeve (or in the ballot box for in-person voting.) That is why this "voting system" component can be assumed to work universally with all possible wrappers (ways of handling eligibility etc.) Therefore it is not in my mind necessary now to test the tabulator in conjunction with signature verification, voter registration and other components of the election system. What PERC is concerned with is the creation and handling of the artifact that is contained within the envelope. What Al is addressing is the need to qualify the systems against "must requirements" prior to submitting them to comparison for purposes of selection.

> PERC is not responsible to (ensure, demonstrate, verify) that the combination of federally certified components used by any specific county meets every must requirement. Yet, until it can be verified with some certainty that the end-to-end solution meets all of the must requirements, it is a waste of time for PERC to evaluate how many extra benefits the untested solution offers. If the system doesn't work, what does it matter that it is efficient or easy to use?

Some responsible entity (in our case the SOS) needs to be sure that whatever system is permanently approved for use in Colorado does meet all the "must" criteria for a voting system (as well as separately ensuring the "election system" meets all of its "must" criteria.) In my opinion the pilot may be used to help confirm that each system conforms to a broad set of "must" criteria even if the test matrix was understandably inadequate to address them all. The use of extra steps for accuracy verification during the pilot allows this to happen safely. It is extremely valuable to have the final tests for "must" criteria happen in the context of an actual election for what ought to be obvious reasons. Any uncertainty as to quality (e.g. accuracy) is made up for by extra steps to confirm the quality of the results. Here I disagree with Al. I do not seek a temporary hold that delays the election pilots.

> PERC is responsible for evaluating the wants, and not verifying the non-negotiable must requirements.

The SOS is clearly responsible for evaluating the "must requirements" and has apparently done so to its satisfaction. If there is any uncertainty as to the effectiveness of tests, the extra data collected during the pilot elections can be used to confirm accuracy, reliability and so on.

> We have loosely discussed a list of such mandatory must requirements including security, accuracy, verifiability, transparency, and ballot/vote anonymity. These are not negotiable. A system that fails to meet even one must requirement has no place in the pilot election review.

These are valuable but vague criteria for quality that must be extrapolated into specific metrics and tests. The existing test matrix plus the test consisting of an adequately monitored election makes an excellent venue for quality determination.

> I would recommend that PERC call for a temporary hold – until (a) systems integration and test plans can be formalized and (b) each submission accepted for PERC review has successfully proven that it meets all of the must requirements.

I understand the SOS is satisfied that "must" requirements have been met, but the public has as of yet no verifiable reason to agree. I recommend that the pilot elections proceed with enhanced means for quality determination such as some steps I have recommended. Once all the produced records such as ballot images and

cast vote records have been sufficiently reviewed it will be possible to know what yet is needed if anything to qualify systems and compare them for purposes of selection for purchase in Colorado. I suggest planning for a temporary hold in the timeline only after the pilot elections are complete in order for a substantial technical review to take place as well as any other reviews needed for other criteria such as fiscal considerations. The attempt to complete a final decision prior to to use in the primary of the 2016 election creates a potential for an inadequate due process in the evaluation. Perhaps the 2016 elections also should be considered a part of a credible and deliberate evaluation process. Once the 2015 pilots are complete I think any need for further delay to avoid making a premature decision will become clear.

Harvie Branscomb