

Solano County Department of Information Technology  
Elections Division

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Honorable Debra Bowen  
Secretary of State  
1500 11<sup>th</sup> Street  
Sacramento, CA 95814

Dear Secretary of State Bowen:

On behalf of Solano County, I would like to comment on the draft standards for your proposed, top-to-bottom review process, which we received on March 22, 2007.

Generally we echo the statements offered in the position paper prepared and distributed on March 26<sup>th</sup> by the California Association of Clerks and Election Officials. We agree there are key tenets of elections that should be examined for all voting systems, and we concur with the call for clear, measurable standards and an objective review by experienced examiners.

All voting systems in use in California, except those specifically grandfathered by federal standards because of their proven reliability, have undergone both federal and state testing. The testing has been based on vetted standards and procedures applied to all systems equitably. We ask you to clarify in the final draft those areas of review that specifically depart from previous tests and ensure that all systems are tested on all of the dimensions that make for a quality voting system: security; reliability; stability; accuracy; and, usability for both voters and election administrators.

Our specific reasons for commenting separately relate to our experiences with our central and precinct count optical scan system and our AutoMARK ballot marking system.

Software

Solano County has used Election Systems and Software's Unity software since the November 2004 election and has found it to be unstable. We have encountered problems in each election ranging from the mysterious exclusion of absentee results to phantom precincts to failure to update the number of precincts reporting.

While we have been able to produce accurate results for our elections, we have not always received from our vendor a documented explanation of the problems or specific procedures to avoid their recurrence.

We urge you to be mindful of these quality and stability issues that may be present in all systems in use in the state during the course of your review, and we suggest that these "bugs" be reported back to the independent test authority for resolution.

#### Accuracy

Following our experiences in the November 2004 election, we undertook a test of the accuracy of the system by marking oval positions on test ballots and running these ballots through precinct scanners and central scanners. We found the central scanner interpreted marks differently from the precinct scanners, and learned that the two central scanners we have did not always interpret the marks in the same manner although their calibration were within vendor standards. These quality and accuracy issues are emblematic of all optical scanning systems and deserve closer scrutiny to ensure that votes are not lost. Specific minimum accuracy and reliability standards for optical scanning systems should be considered as part of your review.

Another key issue with respect to accuracy is voter error. Many voters mismark their ballots and attempt to correct them by crossing out the wrong vote, marking a new selection, and initialing the change. This leaves us to attempt to determine the voter's true intent which is not always apparent. If we are unable to do so, the person's vote is lost. Worse, if the voter initials the change, this must be considered an "identifying mark" according to your guidelines, and results in the rejection of the entire ballot. Some errors may not be detected at all, for example, when the voter uses the wrong marking device or circles the oval rather than filling inside the lines. Where these errors are not detected, votes are lost. Finally, precinct scanners have "second chance" voting capability which warns voters of errors, but we notice that very many voters ignore the warnings and decline to remark their ballots.

These accuracy errors could make the difference in very close elections, and we believe the voting public would be well served if they were addressed.

#### Reliability

Our AutoMARK devices have had significant reliability problems. In the November 2006 election, our poll workers reported 43 instances in which the AutoMARK device was used and 32 failures ranging from failure to mark votes on both sides of the ballot to jams and failure to interpret the ballots. These 32 instances of improper function constitute an unacceptable, 72% failure rate. As you may know, the AutoMARK was certified without validation by a volume test which was required for other accessible voting devices. As part of your top to bottom review we urge you to require a volume test for AutoMARKs as well as all other ballot marking systems, using the same criteria for other systems and involving devices that have undergone the real-life affects of transport.

#### Accessibility

Your draft standards for accessibility appear overly prescriptive in that they require a "sip and puff" device which, in our county, has yet to be used by any voter. Yet the draft criteria

overlook the obvious fact that a voter must have the use of two hands and significant strength and dexterity to insert the ballot into the AutoMARK, tug it firmly out, and then insert it into the precinct scanner. This requirement precludes its use, or independence and privacy of use (both HAVA requirements) by quadriplegic and most blind voters. The general difficulty of operation dissuades most elderly voters from using it, even though they would otherwise benefit from the large type and brightly lit touch screen.

We ask you to take these factors into consideration in your review of this and similar equipment.

#### Security

The draft criteria focus heavily, almost exclusively, on security. While we know of no instances in which malicious efforts to corrupt software occurred—or were even attempted—we nevertheless understand that security is an important tenet of fair elections.

We believe your security criteria should also address the security of paper ballots which are far easier to steal or deface in an imperceptible, untraceable manner than other voting components. We consider a relative security risk assessment to be an essential part of your review.

We also consider it a mistake and potentially misleading to the public to allow anyone access to source code for a “red team” attack. There is no system which could withstand an attack if wrongdoers have access to source code. The ITAs use professional standards in their source code review and benefit from guidelines provided by the National Institute of Science and Technology as well as the Election Assistance Commission. We believe that a focus on attacking source code will distract from the more frequent and equally important issues we face in reliability, stability, accuracy, and, usability. As you know, our offices do not have access to source code, and it is kept securely with an escrow agency for this very reason.

Thank you for considering our comments as you finalize your review criteria. We would appreciate the opportunity to comment on a revised draft before any testing commences.

Sincerely,



Ira Rosenthal

Chief Information Officer & Registrar of Voters