Review of SF VSTF Draft Report
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Generally, considering the major impact of the ADA, VRA, and HAVA on the requirements of voting systems and their use, it seems that the VSTF report might address access issues a bit more thoroughly.

Possibly, the VSTF report could have more to say about the concerns and recommendations concerning the current San Francisco voting system with its segregated ballot that uses a separate ballot media with separate handling, tabulating, storing, and auditing.

It also seems that there should be more mention of the impact of San Francisco's significant multiple language requirements.

The VSTF report casually states that the CA Sec. of State's conditional certification requirements are being met. However, voters are actually reporting that many of the security, privacy, and accessibility mitigation procedures required in the conditional certification are not being met consistently or effectively.

As an example, the privacy-enhancing procedure requiring a minimum of five voters using the DRE machines has been ignored in most of the polling places. Due to inadequate training, most pollworkers appear to be unaware of the requirement. The daunting chore of trying to find enough voters to meet the minimum-of-5 requirement can cause some pollworkers to ignore the requirement or even to hesitate to let anyone start voting on their DRE in the first place.

This attempt to mitigate the voter-sequence-correlation privacy exposure may not be worth the side effect of pollworkers discouraging or completely blocking the use of the "accessible" DRE voting machines. Improved protection of privacy of the ballot is not helpful, if one can't even vote it.

There are voter reports of the DRE voting machines not being set up and confirmed in working order before the opening of their polling places. Typically, the pollworkers are waiting until a voter needing the DRE voting machine appears at the polling place, at which time the pollworkers may make an attempt to set up the DRE voting machine for the voter. Waiting to set up and test the DRE machine not only forces voters with disabilities to endure frustrating delays in their voting attempt, but it often results in the DRE machine never being set up in proper working order.

It is not surprising that pollworkers who are often overwhelmed with all their other pollworking duties might be unwilling to

take the time to set up the DRE machine or deal with debugging any problems they might encounter when attempting to set one up. Shockingly, we have even had reports of pollworkers who were not willing to attempt to set up the machine, so they falsely informed the voters with disabilities that the machine was "broken" or "just not working."

The most common reason for a voter with disabilities to not have a successful voting experience with the current Sequoia DRE systems in San Francisco polling places is the unreliable availability of any properly set up and working voting machine.

This is due partly to the unreliability of the Sequoia machines themselves and is why some other counties, such as Santa Clara County, send three VVPAT printers along with each Sequoia DRE machine, "just to be safe."

I feel strongly that the reliability of San Francisco's current DRE voting systems would be improved substantially by a seriously enforced requirement that the accessible voting system be set up and working before the polling place is opened for general voting at the start of the election day. There should be no tolerance for thinking such as, "Well, we'll just wait for someone who really has to use the DRE machine before we'll try to set it up."

Each of the voting machines used in San Francisco need to be completely set up at the start of the election day and tested with an audio ballot to prove it is working and actually has speech coming out the headphones.

This may require a procedure that includes generating a temporary test voter whose uncast ballot is voided after testing the DRE with an audio ballot.

However, by far, the most common reason for the DRE voting system not providing accessible voting for San Francisco's voters with disabilities is due to pollworkers not being prepared to set up and test the complicated systems properly.

The Sequoia voting machines currently used in San Francisco have a set up process and user interface that is extremely complicated and difficult, even for our most technically inclined pollworkers.

Improving reliability of the voting machines requires major reduction in complexity.

The use of the voter card and card encoders system for setting up each voter's voting session on the Current Sequoia DRE voting machines should be replaced by the "Manual Setup" system that dispenses with the voter cards and encoders, in favor of the manual setup mode. The manual setup mode is simpler and allows a

pollworker to use the touch screen and menu system of the Sequoia DRE unit itself, to configure the DRE for that voter's voting needs.

In addition to improving simplicity and offering more reliable operation of the voting system, dropping the use of voter card encoders reduces the security exposures associated with voter cards and/or the misuse or theft of the voter card encoders.

Given that, in the near term, the accessible DRE voting systems used in San Francisco will continue to be overly complex and difficult for pollworkers to operate, more effective pollworker training and reference materials (like "cheat sheets") should be developed.

Because the DRE machines are not the primary system used by the general public to cast their ballots, pollworker training for handling the DRE systems has taken a back seat and is seriously neglected. Skipping the required minimum DRE training of pollworkers should not be tolerated.

It may make more sense to assign one of the most technically inclined pollworkers in each polling place to become the precinct's "DRE voting machine expert" and have them spend more of their training time learning the details of the DRE voting system setup and operation.

It is practical to assume that most pollworkers will forget (come election day) any training they've had on how to set up and operate the DRE voting machine. Therefore, the pollworkers (or the "DRE expert") will need better, simple step-by-step instruction cards or guides, possibly conveniently attached to the actual voting machines.

Educating The Voters:

There needs to be much more effective public outreach to inform voters with disabilities of the accessible voting machines and other voting-related resources available in their community.

A good example is promoting access to voting information on-line, including sample ballots.

Efforts should be made to reach out to seniors and others that may not be able to access on-line information. Radio and TV PSAs, presentations at gatherings such as at senior centers, and telephone info lines are examples of some of the other outreach that should be encouraged to let all voters know about the availability of accessible voting systems and other accessible voting resources.

Security Concerns:

Sleep-overs of voting systems at polling sites should not be allowed, but is still being done.

Even when locked and "tamper sealed", bags with flexible zippers can be opened and closed without breaking the lock or seal. I have a video demonstrating this "Zipper Loophole" or "butterfly" attack on bags with flexible zippers. Bank bags used to have flexible zippers, but now have stiffened or non-flexible zippers, to avoid the attack. Memory cards, ballots, and other election materials are not safe when "sealed" in flexible zipper bags.

In the 2008 election, my local precinct left the Sequoia DRE voting machine and its card encoder in a flexible-zipper roller bag on the floor in the corner of our unlocked fire station garage. The firehouse was deserted and the voting equipment unguarded whenever the staff was out on call to a fire.

It would have been too easy for someone to remove the whole bag of equipment or to just butterfly its zipper and remove the small card encoder unit. The ROM chips inside the card encoders contain the same hard coded encryption key that is used on all of the Sequoia DRE equipment and would be a valuable prize for anyone wanting to hack Sequoia voting systems.

Pollworker training should make it clear that tamper seals are not "tamper proof" and should not be considered secure, as they are not locks, just possibly tamper indicators. What good is a tamper-evident seal when someone makes off with the whole bag?

If the current DRE systems are simplified by dropping voter card encoding and switching to manual mode configuration of each voter's DRE session, the "Big Yellow Reset Button" attack is a manual mode security risk exposure that can be mitigated by following existing polling place procedure requirements that specify the backside (yellow reset button side) of the Sequoia DREs should be positioned so it is normally visible to, and monitored by the pollworkers.

In The Longer Term:

For longer term improvement to the San Francisco voting systems, I agree with the VSTF recommendation to convert to a system that provides better ballot marking accessibility through BMDs.

Any BMDs will need automatic ballot casting option so voters with severe motor disabilities will not have to manually handle their marked ballot to cast it. The AutoMARK has an AutoCast option, and Dominion ImageCast has also announced they will have automatic ballot casting capabilities.

Compared to the need for the automatic casting, the "double-

commit issue," is usually not considered to be a very important concern for BMD systems that have a physical ballot return or cast as a result of the final confirmation. It seems like the VSTF is possibly making an unnecessarily big deal and requirement concerning the "double-commit issue," in this report.

I have trouble imagining how accessible mobile BMDs could provide access to a very large portion of voters with disabilities, especially considering transport times and the long (typically 45 minutes or more) in-booth voting times experienced with accessible voting systems in California. It might serve to accommodate a few voters with more severe access needs, but I don't think that a mobile accessible voting systems approach will be able to help a major portion of San Francisco's voters with disabilities.

San Francisco might be able to begin conversion to accessible BMDs by initially placing BMDs only at more centralized voting centers.

However, in the long run, providing access to voting only through voting centers may require supplying transportation outreach as well. Who pays for transportation in Federal versus local elections?

Finally, I am delighted to know that San Francisco has realized that the performance of its voting system is a matter of great public concern and is soliciting discussion and input from the community at large, as well as by the experts on the VSTF.