

TO: TGDC  
FROM: Diane Golden  
RE: Comments on accessibility standards discussed at May meeting

The following are concerns with the accessibility standard revisions discussed at the May meeting (per Sharon's slide summary.)

1) It appears there is a new proposed standard for legibility of all paper ballots including VVPATs which reads as follows and there is no longer a specific requirement for at least two text sizes for the accessible voting systems (Acc-VS) --

#### “3.2.5-G Legibility of Paper Ballots and Verification Records

All voting systems using paper ballots or paper verification records shall provide features that assist in the reading of such ballots and records by voters with low vision.

DISCUSSION - While this requirement may be satisfied by one of its sub-requirements, other innovative solutions are not precluded.

#### 3.2.5-G.1 Legibility via Font Size

The system may achieve legibility of paper records by supporting the printing of those records in at least two font sizes, 3.0 - 4.0mm and 6.3 -9.0mm.

DISCUSSION: Although the system may be capable of printing in several font sizes, the use of various font sizes in an actual election may be governed by local or state laws and regulations.

#### 3.2.5-G.2 Legibility via Magnification

The system may achieve legibility of paper records by supporting magnification of those records. This magnification may be done by optical or electronic devices. The vendor may either:  
-- provide the magnifier itself as part of the system, or -- provide the make and model number of readily available magnifiers that are compatible with the system.

DISCUSSION The magnifier(s) either provided or cited must, of course, provide legibility for the paper as actually presented on the system. For instance, if the paper record is under a transparent cover to prevent the voter from touching it, the means of magnification must be compatible with this configuration.”

While the above is fine in general for paper ballots in voting systems, it does not maintain the current level of accessibility (required two text size visual display ) for people with partial vision in the Acc-VS. The accessible voting system must deliver two text sizes, one between 3mm-4mm and the other between 6.3-9.0 mm, for all ballots that are or can be a determinative vote record (paper ballots and/or electronic displays). Requiring the two text sizes is absolutely critical as many people with macular degeneration (one of the most common causes of low vision) have visual field deficiencies and must have standard size text to be able to use a very narrow field of vision (only central or only peripheral) to access text. Others with macular degeneration will require the large text size as their vision disability is one of acuity.

The standard for an Acc-VS must require delivery of both text sizes so as to not reduce the level of accessibility already required of accessible systems as follows --

The Acc-VS shall be capable of showing all official ballot information in at least two font sizes, (a) 3.0-4.0 mm and (b) 6.3-9.0 mm, under control of the voter. The system shall allow the voter to adjust font size throughout the voting session while preserving the current ballot choices.

How the Acc-VS delivers the two font sizes is up to the design of the system. Current systems with an electronic interface (DREs and BMDs) display the text in two sizes using core electronic text data. Text could also be displayed via video enlarging off of hard copy print (using a video image of the ballot text to create the two mandatory sizes.) The option that is NOT viable for a Acc-VS is using an optical lens where the shape of the lens produces different types of magnification. This approach cannot ensure delivery of the two mandated text sizes as these lens have “sweet spots” and other characteristics which do not allow for consistent delivery of mandated text sizes.

2) The slides indicate that standard 3.2.1.1-D Ability to Vote without Human Assistance has been dropped from the Performance Requirements. It further notes that this requirement has been captured as part of usability testing 3.2.1.2-A as follows:

“Usability Testing by Vendor for General Population The vendor shall conduct summative usability tests on the voting system using individuals representative of the general population. See requirement IV.2.6.2-A XREF for associated reporting requirement. Volume IV: The vendor shall document all the usability testing performed as required in Section 3 and report the test results using the Common Industry Format.”

A performance standard requiring the ability to vote without human assistance is critical for people with disabilities and will not necessarily be captured in usability testing and certainly becomes less understood as a performance requirement when not specifically identified as such. The previous requirement to be able to vote (generate, verify and cast official ballots) without human assistance should be reinstated as a specific performance requirement for the Acc-VS.

3) There appeared to be a great deal of discussion at the meeting regarding whether or not paper ballots marked via an electronic interface needed to be human-readable and machine-readable, and if machine readable what was the core content to be read by the machine (the human-readable text or some other coding.) This issue is absolutely critical for people with disabilities as the only viable Acc-VS will include an electronic interface that will likely generate a paper record that must be made accessible for verification. People with disabilities must be able to verify whatever people without disabilities are verifying. As was pointed out during the discussion, requiring human readable text to also be machine readable can help support people with disabilities being able to verify the human readable text. However, if ballot marking devices are allowed to machine read code other than the human-readable text and that machine-read code is the mechanism available to make ballot verification accessible for individuals with disabilities -- the result is individuals with disabilities are verifying different content than non-disabled voters are verifying which creates serious legal ramifications.