Statement for the Record

of the

American Foundation for the Blind

Submitted to

Elections Assistance Commission
Technical Guidelines Development Subcommittee

Regarding a hearing

September 21, 2004

held at

National Institute on Standards and Technology

For further information, contact

Joy Relton
Governmental Relations Representative
American Foundation for the Blind
820 First Street, N.E., Suite 400
Washington, DC 20002
202-408-8170
jrelton@afb.net

The American Foundation for the Blind--the organization to which Helen Keller devoted her life--is a national nonprofit whose mission is to eliminate the inequities faced by the ten million Americans who are blind or visually impaired. Headquartered in New York City New York, AFB maintains a Technology and Employment Center in Huntington, West Virginia, a National Literacy Center in Atlanta Georgia, a National Employment Center in San Francisco California, a National Center on Age-Related Vision Loss in Dallas Texas, and a Governmental Relations Office in Washington, DC.

The Technology and Employment Center is a product evaluation laboratory whose mission is to improve the accessibility of mainstream products for people who are blind or visually impaired. The center publishes its results in medical and engineering journals as well as in Access World, a technology magazine published by the American Foundation for the Blind. The Center also provides direct consulting to manufacturers to advise them on accessibility issues related to their products.

In "Cast a Vote by Yourself: A Review of Accessible Voting Machines" (Access World, November 2002, Volume 3 Number 6 http://www.afb.org/afbpress/pub.asp?DocID=%20aw030603), the Center tested four different voting machines to evaluate their accessibility and usability for blind and visually impaired individuals. In the testing, several criteria were developed which, if met, resulted in a label of usable and accessible. The comments below which are in response to the questions provided are based on the findings of this testing process, a follow-up article, the "Ballot Ballet: The Usability of Accessible Voting Machines" (Access World, July 2004, Volume 5 Number 4 http://www.afb.org/afbpress/pub.asp?DocID=aw050404), and the experience of blind and visually impaired persons in the use of Direct Record Equipment (DRE).

Question 1: Describe what you feel the test should consist of for accepting a voting machine as suitable for use? Please define your terms.

Tests for suitability for use must include tests for accessibility and usability. In using the term "accessibility" I refer to those features which give persons access to the machine's use as in speech output gives access to persons who are blind. In using the term usability, I am referring to those features which have an impact on an individual's ability to use the machine as in whether the instructions are easily understood. Even though we tested voting machines to address features having an impact on persons with visual impairments, we believe our findings can serve as a foundation for the development of tests for persons with other disabilities and special language needs. More complete information is contained in the above referenced articles.

In order for a voting machine to be considered accessible and therefore suitable for use by a person with a disability it must allow an individual to vote independently and privately, affording the voter the ability to verify the vote without assistance from any other person. The following elements should be present, as a minimum, to ensure that voting machines afford individuals with disabilities the opportunity to vote independently and privately.

- Testing should involve users with disabilities of a variety of ages and having a variety of impairments and levels of technical abilities.
- Speech should be digitally recorded human voices for better clarity and understandability by persons of varying ages and ability to hear.
- All instructions should be available in spoken output as well as in print and be clear and easy to understand and have the ability to be repeated as needed.
- All controls should be both visually and tactilely distinguishable. It should be possible to determine whether the control has been engaged by tactile, audible and visual indications so that the user can verify that the intended action has occurred.
- It should be possible for a user to use both visual and auditory output simultaneously. This helps persons with certain reading or learning disabilities, as well as persons for whom English is not their first language. It is also helpful for older persons who are not accustomed to reading on computer screens or who may have vision problems.
- The voting system must not only have integrated features to prevent under- or over-voting but must also clearly indicate this visually and auditorially and provide for independent correction of these errors.
- Finally, users need to be able to customize font size and screen background and color in order to accommodate their particular visual impairment. This feature would benefit many users without disabilities.

Question 2: Describe what you feel the test should consist of for certifying a voting system as meeting a voting district's standards/requirements? Please define your terms, and comment whether you believe this test needs to be Voting District specific or whether it can be universal.

All certification should be universal when determining accessibility and usability. Because most election officials lack the expertise and knowledge to determine whether a voting machine is accessible or usable, this determination and certification should occur on a national level so that persons with disabilities from any state have the same opportunity and access as another person with a disability in another state. In this manner manufacturers should also know what the requirements are which need to be met in order to be certified as accessible and usable.

Tests should consist of having a check list of features which need to exist in order to be certified as usable and/or accessible. Testers would need to take the respective voting machine through the voting process and determine if the designated features exist and whether they give the desired result. Testers would determine that: all information on the screen is spoken and displayed; a user can interrupt the speech to review some part of the screen; and the user can independently verify any selection made. An example of this type of testing is accomplished with the U.S. Access Board’s Electronic and Information Technology standards which provide guidelines for determining compliance with Section

508 of the Rehabilitation Act of 1973 as amended. (See http://www.access-board.gov/508.html.)

In addition, there should be mandatory training of poll workers in the operation of all of the features of voting machines. It has been the experience of several people who are blind, including myself, that the poll workers did not even know how to make the computer speech come out of the ear phone and they did not know how the system worked because they had never been given an opportunity either to observe or to operate the accessibility features of the machine.

Question 3: Do you feel it would be worthwhile to perform a risk assessment for the voting system? By risk assessment, I mean noting the areas of risk/vulnerability in using the voting system, and if the risks are serious enough risks, defining the areas that need corrective
action. If so, describe how you would go about conducting the risk assessment.

The American Foundation for the Blind believes that it is important that all voting systems be secure, verifiable and accurate. We know that, in general, the security of an information technology system is not compromised by making it accessible. Therefore, we believe that it is possible to make a voting system secure and verifiable without sacrificing accessibility and usability. Our organization does not have expertise in system security or risk assessments so we have no further comment as to how any assessments should be performed.

Question 4: To what degree do you feel that you can perform the same certification and risk assessment of the voting system, independent of the actual voting machine hardware and software (e.g. DRE, optical, scan, lever machines, punch card)? Please explain.

We do not have expertise in risk assessments and no expertise on punch cards, optical and lever machines so we will not comment on this question.

Thank you for this opportunity to give testimony on testing the accessibility and usability of voting machines. Should you have any further question please don't hesitate to contact me.

Respectfully submitted,

Joy L. Relton, J.D.
Governmental Relations Representative
American Foundation for the Blind