**DRAFT Test Assertions for VVSG 1.0 3.1.6**

**April 18, 2014**

**Requirement 3.1.6a**

**VVSG 1.0 Requirement 3.1.6a:** Voting machines with electronic image displays shall not require page scrolling by the voter.

**Test Assertions**

**TA316a-1:** IF a voting machine contains an electronic display THEN there SHALL be no off-screen contents that can be made visible solely through the use of scroll bars.

**TA316a-2:** There SHALL exist at least one mechanism, other than scrolling, for navigation within and between contests that presents ALL ballot-content to the voter explicitly.

**TA316a-3:** Next or previous “page” buttons MAY be used as such a non-scrolling navigation mechanism.

**Requirement 3.1.6b**

**VVSG 1.0 Requirement 3.1.6b:** The voting machine shall provide unambiguous feedback regarding the voter’s selection, such as displaying a checkmark beside the selected option or conspicuously changing its appearance.

**Test Assertions**

**TA316b-1:** After making a selection, a voting machine SHALL provide, to the voter, an unambiguous and conspicuous visual difference between selected contest choice(s) and the non-selected contest choices within a given contest.

***MAY be accomplished by:***

**Visual**

**TA316b-1-1:**  The voting machine MAY indicate the selection of candidates and choices by the voter by displaying a checkmark beside the selected option.

**TA316b-1-2:**  The voting machine MAY indicate the selection of candidates and choices by the voter by displaying an “X” beside the selected option.

**TA316b-1-3:** The voting machine MAY indicate the selection of candidates and choices by the voter by conspicuously changing its appearance.

**TA316b-1-4:** The voting machine MAY indicate the selection of candidates and choices by the use of highlighting around the chosen option.

**TA316b-2:** IF a voting system implements an audio interface, after making a selection, THEN a voting machine SHALL provide, to the voter, an unambiguous and conspicuous audio confirmation of the selected contest choice(s) within a given contest.

***MAY be accomplished by:***

**Audio**

**TA316b-2-1:** The voting machine MAY provide a spoken confirmation after making a selection (for an audio interface).

**Requirement 3.1.6c**

**VVSG 1.0 Requirement 3.1.6c:** If the voting machine requires a response by a voter within a specific period of time, it shall issue an alert at least 20 seconds before this time period has expired and provide a means by which the voter may receive additional time.

**Test Assertions**

**TA316c-1**: IF a voting systems has a time limit for voter input, and no voter input has been received at least 20 seconds prior to expiration of this time limit, THEN the voting system SHALL issue an alert to the voter.

**TA316c-2**: The alert to the voter SHALL contain information telling the voter that the time limit for voter input is 20 seconds away.

**TA316c-3**: The alert to the voter SHALL provide a mechanism for the voter to receive additional time beyond the 20 seconds remaining.

**TA316c-4:** IF the voter does not respond to the alert within the alert time, THEN the voting system SHALL go into an inactive state requiring poll worker intervention.

**Requirement 3.1.6di**

**VVSG 1.0 Requirement 3.1.6di:** On touch screens, the sensitive touch areas shall have a minimum height of 0.5 inches and minimum width of 0.7 inches. The vertical distance between the centers of adjacent areas shall be at least 0.6 inches, and the horizontal distance at least 0.8 inches.

**Test Assertions**

**TA3.1.6di-1:** FOR touch screens, the sensitive touch areas SHALL be equal to or greater than 0.5 inches high.

**TA3.1.6di-2:** FOR touch screens, the sensitive touch areas SHALL be equal to or greater than 0.7 inches wide.

**TA3.1.6di-3:** FOR touch screens, the vertical distance between the centers of adjacent areas SHALL be equal to or greater than 0.6 inches.

**TA3.1.6di-4:** FOR touch screens, the horizontal distance between the centers of adjacent areas SHALL be equal to or greater than 0.8 inches.

**Requirement 3.1.6dii**

**VVSG 1.0 Requirement 3.1.6dii:**  No key or control on a voting machine shall have a repetitive effect as a result of being held in its active position.

**Test Assertions**

**TA3.1.6dii-1:** FOR all input mechanisms on a given voting system ballot interface, holding an input mechanism in an active state SHALL have only one resulting instance of the input mechanism’s function, regardless of duration or intensity of that activation.