**DRAFT Test Assertions for VVSG 1.0 Section 7.9.1**

**August 24, 2015**

**Requirement 7.9.1**

**VVSG 1.0 Requirement 7.9.1:**

1. The voting system shall print and display a paper record of the voter ballot selections prior to the voter making his or her selections final by casting the ballot.

**Discussion:**

This is the basic requirement for VVPAT capability. It requires the paper record to be created as a distinct representation of the voter ballot selections. It requires the paper record to contain the same information as the electronic record and be suitable for use in verifications of the voting machine’s electronic records.

1. The paper record shall constitute a complete record of ballot selections that can be used to assess the accuracy of the voting machine’s electronic record, to verify the election results, and, if required by state law, in full recounts.

**Discussion:**

This requirement exists to make clear that it is possible to use the paper record for checks of the voting machine’s accuracy in recording voter ballot selections, as well as usable for election audits (such as mandatory 1% recounts). The paper record shall also be suitable for use in full recounts of the election if required by state law.

1. The paper record shall contain all voter selection information stored in the electronic (ballot image) record.

**Discussion:**

The electronic ballot image record cannot hide any information related to ballot selections; all information relating to voter selections must be equally present in both records. The electronic record may contain other items that don't necessarily need to be on the paper record, such as digital signature information.

**Test Assertions**

**TA79-1:** A VVPAT voting system SHALL consist of, but not be limited to, the following components:

* A voting device, on which a voter makes selections
* A voting device, on which a voter prepares to cast a ballot
* A printer that prints a paper record summary of the voter’s ballot selections
* A printer that allows the voter to compare the paper record summary of his or her selections with the electronic ballot selections
* A mechanism by which the voter may indicate acceptance of the paper record
* A mechanism by which the voter may indicate rejection of the paper record
* Ballot box/cartridge to contain accepted paper records
* Ballot box/cartridge to contain voided paper records
* A paper record for each electronic ballot image

**TA79-1.1:** The paper record, for each electronic ballot image, SHALL be printed on EITHER 1) a separate sheet for each record (“cut-sheet VVPAT”) OR 2) on a continuous paper roll (“paper-roll VVPAT”)

**TA791a-1:** The voting system shall print a paper record of the voter ballot selections.

**TA791a-2:** The voting system shall display a paper record of the voter ballot selections.

**TA791a-3:** The printing and displaying of the paper record SHALL be completed prior to the voter making his or her selections final by casting the ballot.

**TA791a-4:** The paper record SHALL be created as a distinct representation of the voter ballot selections.

**TA791a-5:** The paper record SHALL contain the same information as the electronic record.

**TA791a-6:** The paper record SHALL be suitable for use in verifications of the voting machine’s electronic records.

**TA791b-1:** The paper record SHALL constitute a complete record of ballot selections.

**TA791b-2:** The paper record SHALL be capable of being used to assess the accuracy of the voting machine’s electronic record.

**TA791b-3:** The paper record SHALL be capable of being used to verify the election results.

**TA791b-4:** The paper record SHALL be capable of being used, if required by state law, in full recounts.

**TA791b-5:** The paper record SHALL be capable of being used for checks of the voting machine’s accuracy in recording voter ballot selections.

**TA791b-6:** The paper record SHALL be capable of being used for election audits (such as mandatory 1% recounts).

**TA791b-6.1:** All paper records SHOULD contain audit-related information including, but not limited to:

* Machine ID
* Reporting context, such as precinct or election district
* Ballot style
* Date of election or date record printed
* Complete summary of voter’s choices

**TA791c-1:** The paper record SHALL contain all voter selection information stored in the electronic (ballot image) record.

**TA791c-2:** All information relating to voter selections SHALL be equally present in both the paper record and the electronic ballot selections (from Discussion).

**TA791c-3:** The electronic record MAY contain other items that don't need to be on the paper record, including, but not limited to, digital signature information (from Discussion).

**TA791c-4:** The accuracy requirements in section 4.1.1 SHALL apply to both the paper record and the electronic record.