U.S. ELECTION ASSISTANCE COMMISSION
633 3rd St. NW, Suite 200
Washington, DC 20001

EAC Decision on Request for Interpretation

2025-01 9.1.5-G Ballot Selection Area

Sections of Standards or Guidelines:

9.1.5-G– Preserving Software Independence

After a voter verifies their selections on a voted ballot and submits the ballot for casting, a paper-based voting system must not be capable of making an undetectable change to the
paper record.

Discussion

After a voter verifies and submits their ballot, a voting system may print on a paper ballot to apply a unique identifier that is later used for auditing purposes. To preserve software independence the voting system should not be able to print over or within the ballot selection area because that would cause an undetectable change to the election outcome. Instead, the voting system should only be able to print outside of the bounds of the ballot selection area and may also create further distinction by printing in a different font style or color.
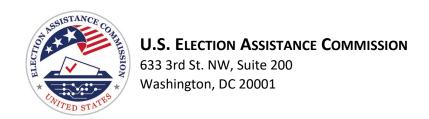This printing process should be preserved regardless of software or hardware updates.

Date:

April 3, 2025

Question(s):

1. What is the definition of the term "ballot selection area"? Does it refer to the entire area intended for voter marking, often bounded by timing marks, or is it specifically limited to contest option positions?

2. What is the definition of the term "ballot selection area" on ballots without timing marks, e.g., summary-styled ballots?

Discussion:

VVSG 2.0, Principle 9 – Auditable, states that the voting system must be auditable and enables evidence-based elections. Guideline 9.1 states that an error or fault in the voting system software or hardware cannot cause an undetectable change in election results.

Evidence-based elections are facilitated by voting systems that produce resilient records and enable efficient audits. A paper-based voting system must be capable of adding or attaching a unique identifier at the time a Cast Vote Record is created. This identifier cannot be removed after it is placed onto or attached to the ballot. However, exactly where and how the unique identifier should be added or attached to the ballot after being cast is not specified in the requirement.

The discussion section of requirement 9.1.5-G states:

> "After a voter verifies and submits their ballot, a voting system may print on paper ballot to apply a unique identifier that is later used for auditing purposes. To preserve software independence the voting system should not be able to print over or within the ballot selection area because that would cause an undetectable change to the election outcome."

Although the requirement and the discussion do not explicitly define the ballot selection area, the glossary provides a definition for the contest option position. The contest option position, which is synonymous with ballot marking target area and ballot selection position, is defined as a specified area on a ballot where a voter's selection in a particular contest can be indicated. For the purposes of this interpretation, ballot selection area should also be considered synonymous with contest option position. To comply with this requirement, the voting device should not have the capability to print anywhere on a ballot where a voter may make a selection, including a space where a write-in vote may be made. Additionally, requirement 2.5.1-D states:

> "All voting devices must prevent access to or manipulation of configuration data, vote data, or audit records (for example, by physically tampering with the medium or mechanism containing the data, by other programs on the system, or by faulty code) except where this access is necessary to conduct the voting process."

Considering these two requirements, paper-based voting systems must ensure that ballots cannot be altered in a manner that would result in them being misinterpreted or invalidated. However, these locations on the ballot may differ between different ballot styles. Given the variety of formats and ballot styles, the optimal location for affixing a unique identifier may vary. Therefore, the voting system manufacturer must determine the most appropriate location that does not affect the contest option position, timing marks, or other essential information for tabulating and auditing. These defined areas will then be verified during testing by the lab to ensure controls are implemented to prevent the obscuring of essential information.

From the discussion of 9.1.5-G, to preserve software independence, the voting system must not be able to make an undetectable change to the election outcome. To ensure this preservation is accomplished at the ballot level, the voting system

must only be capable of printing outside of the bounds of the ballot selection area after a voter has cast their ballot.

The requirements in the VVSG 2.0 do not specify how to associate a unique identifier with each ballot, though the system must be able to add a unique identifier to the ballot as per requirement 9.1.5-F. If the implementation method chosen to add a unique identifier is to print one onto the ballot, it must follow 9.1.5-G and its associated test assertions to be placed outside of the contest option position.

Conclusion:

Evidence-based elections are facilitated by voting systems that produce resilient records and enable efficient audits. For a paper-based system, this may require the voting device to add markings onto the ballot. For the purposes of this interpretation, ballot selection area should also be considered synonymous with contest option position. To comply with this requirement, the voting device should not have the capability to print anywhere on a ballot where a voter may make a selection, including a space where a write-in vote may be made. Each voting system manufacturer should define this area based on their specific products, as it will differ depending on the format and ballot style. The manufacturer must include their definition in their submitted technical data package (TDP), and the lab will conduct testing on the bounds within which the unique identifier may be printed.

Effective Date:

As of the date this document is published.