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Voting System Testing and Certification

VVSG Lifecycle Policy

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1. Introduction

- 1.1. **Introduction:** In late 2002, Congress passed the Help America Vote Act of 2002 (HAVA), which created the U.S. Election Assistance Commission (EAC) and vested it with the responsibility of setting voting system standards and for providing for the testing and certification of voting systems. This mandate represented the first time the Federal government provided for the voluntary testing, certification, and decertification of voting systems nationwide. In response to this HAVA requirement, the EAC has developed the Voting System Testing and Certification Program (Program).
- 1.2. **Authority.** HAVA requires that the EAC certify and decertify voting systems. Section 231(a)(1) of HAVA specifically requires the EAC to "... provide for the certification, decertification and re-certification of voting system hardware and software by accredited laboratories." The EAC has the sole authority to grant certification or withdraw certification at the federal level, including the authority to grant, maintain, extend, suspend, and withdraw the right to retain or use any certificates, marks, or other indicators of certification.
- 1.3. **Scope.** This document provides the Voluntary Voting System Guidelines (VVSG) lifecycle policy. Participation in the program is voluntary, but if voting system manufacturers decide to participate then they and their products will be subject to the VVSG lifecycle policy. This document supersedes any previous policy from the EAC concerning VVSG lifecycles.
- 1.4. **Purpose.** The intent of this policy is to help facilitate migration to revised VVSG standards by providing guidance on deprecation of obsolete standards and establishing consistent periodic review, update, and versioning of future standards.
- 1.5. **Feedback:** The EAC will engage voting system manufacturers and Voting System Test Laboratory (VSTL)s when implementing revised VVSG standards, beginning with informing them of the differences between VVSG versions, obtaining information about practical implementation timelines for the new standard, and to address questions or concerns they may have.

2. VVSG Version Convention

- 2.1. **Types of Version Change:** This section defines major and minor standard changes. After consultation with stakeholders and a proposed VVSG update has been drafted, the EAC will determine whether a version change is major or minor.
- 2.2. **Major Version Changes:** Major changes to the VVSG will cause the primary number to increment by one and the secondary number to reset to zero. For instance, the new version number for VVSG 2.0 with major changes would be VVSG 3.0. In general, major version changes will require new hardware or other upgrades that render equipment certified under the prior major version to become obsolete.
- 2.3. **Minor Version Changes:** Minor changes to the VVSG will cause the secondary number to increment by one. For instance, the new version number for VVSG 2.0 with minor changes

would be VVSG 2.1. In general, minor version changes will not require new hardware or other upgrades that render equipment certified under the same major version to become obsolete.

- 2.4. **Voting System Test Laboratory (VSTL) Accreditation:** The need for lab accreditation will be based on consultation between the EAC and National Institute of Standards and Technology (NIST) National Voluntary Laboratory Accreditation Program (NVLAP), and metrics such as a change in core or non-core competencies, required skills, or any other criteria deemed necessary by the EAC that are the result of the standard update.

Major VVSG version changes may require VSTL accreditation for that change and minor VVSG version changes will not require VSTL accreditation for that change.

3. VVSG Standard Deprecation

- 3.1. **Overview:** Avoiding the certification of voting systems to obsolete standards is a key element in the transition to new and updated VVSG standards. Manufacturers submitting new systems must submit them to the most recently adopted and implemented VVSG version. ~~Adoption of~~ Updated VVSG versions must move forward while not stranding users of systems certified to older VVSG versions from being able to receive critical updates.

- 3.2. **Deprecation Definition:** For the purposes of this policy, deprecation means the testing to a standard will be discontinued, outside of certain conditions detailed below. Deprecation is not the same as decertification. Fielded voting systems that are certified to any VVSG standard will not be decertified by the EAC based solely on the standard it was certified to. Decertification of voting systems can only take place following the process detailed in the EAC Testing and Certification Program Manual.

- 3.3. **Previous VVSG Version Deprecation:** Once there is a path to certification of voting system equipment to a new major revision to the VVSG with at least one VSTL accredited to test, then obsolete major VVSG versions will be deprecated 12 months after the date of that accreditation. Once obsolete standards are deprecated, manufacturers will be required to submit voting systems to the latest VVSG standard. In certain limited circumstances, changes may be made to voting systems certified to deprecated versions.

Deprecation of a VVSG standard does not affect the EAC certification of systems to the deprecated standard. Those systems shall maintain their status and jurisdictions may continue to acquire these as EAC certified systems.

- 3.4. **Maintenance of Systems certified to deprecated standards:** To address the subject of maintenance of fielded systems, changes to systems certified to a deprecated standard will be accepted within a narrow definition. These changes may be requested through application for a system modification or as an engineering change order for qualifying requests.

- 3.4.1. A change to a system certified to a deprecated standard must be in one or more of the following categories:

- 3.4.1.1. **Security update.** Software patches or hardware mitigations to address known security vulnerabilities and exploits. Software patches may include code authored by voting system manufacturers.
- 3.4.1.2. **Bug fix.** Fixes to correct anomalies reported to and approved by the EAC. Examples include critical functional discrepancies or issues that are part of an EAC certified system. Enhancements are not considered a fix.
- 3.4.1.3. **COTS replacement.** Replacement of commercial-off-the-shelf equipment that has reached end-of-life. Any significant changes to specifications or functionality in the replacement are discouraged and must be evaluated and approved by the Testing and Certification Program Director and a VSTL.
- 3.4.1.4. **Jurisdictional rule change.** Changes that are legally required in a jurisdiction already fielding the system due to some form of change in statute, rule, directive, or other publication that places requirements on a jurisdiction. This type of change must be supported by a chief election official, electoral board, or certification body where this system is state certified or fielded.
- 3.4.1.5. **Updating and adding new components compliant to the current VVSG standard.** Changes to one or more components outside of 3.4.1.1 through 3.4.4.4 may be permitted provided the proposed changes meet the most current VVSG standard. This may include changes to components necessary to integrate new software, firmware, and hardware (devices) into the system. In this instance, the overall system certification would be to the system's baseline (deprecated) standard.
- 3.4.2. **Modifications outside these categories will not be accepted.** Voting systems that feature changes that are outside these categories will only be accepted for testing and certification to a non-deprecated version. When a manufacturer applies for a modification to a voting system that is certified to a deprecated standard, they must clearly state under which category they are applying and must supply supporting documentation for this claim.
- 3.4.3. EAC staff will make the determination on acceptance of modifications to maintenance systems to deprecated standards and will communicate the decision to the manufacturer and appropriate voting system test laboratory. This decision will be posted on the EAC website. Decisions will be made within five business days of receiving all necessary supporting documentation. Manufacturers are encouraged to contact the EAC in advance of applying for voting system testing for a modification to get a non-binding opinion on whether a modification would be considered in any of the categories enumerated in section 3.4.1 of this policy. Non-binding decisions will be provided to the manufacturer in writing within five business days.

4. VVSG Review and Update Process

- 4.1. **Overview:** More frequent iteration of standards is the result of a continuous improvement process that closely matches modern agile software and hardware development cycles. All

updates to the VVSG will adhere to the established practice of public review and comment, agency review and comment, and consideration by the commissioners, as described in HAVA.

- 4.2. **Timeline:** There will be a 12-month cycle for each review for revisions to the VVSG. It is understood that the time taken to complete the review and update process will vary due to several factors, including but not limited to number of changes proposed, number of comments received from stakeholders and the public, complexity of changes, and time taken to develop requirements and test assertions.
- 4.3. **Scope:** Updates to the standards during this cycle may incorporate items such as requests for interpretation, notices of clarification, errata, and other administrative changes. Additionally, requirements may be added or adjusted to support more voting system functions or other updates to accommodate new technologies or standards. Stakeholders are encouraged to submit proposed changes as part of the VVSG review process.
- 4.4. **VVSG Review:** The EAC Testing and Certification Program will engage with the Technical Guidelines Development Committee (TGDC), the Standards Board, and the Board of Advisors annually to identify and propose changes to the VVSG including adding requirements, modifying existing guidelines and requirements, and rolling in Requests for Interpretation, Notices of Clarification, or other clarifying information from the program. An annual 90-day period of public comment will allow all stakeholders to submit comments to the EAC. Public comments will be posted on the EAC website.

The EAC Testing and Certification Program Director will provide an annual report to the Executive Director at the end of the fiscal year detailing recommendations for updates to the VVSG that have been collected throughout the prior fiscal year from various stakeholders. This report will be shared with the Technical Guidelines Development Committee (TGDC), the Standards Board, and the Board of Advisors. Feedback from this process will inform the decision to make updates to the VVSG. This annual cycle will continue, without regard to whether the Executive Director makes the decision to pursue a new version of the VVSG, initiating the steps detailed in section 4.5.

- 4.5. **VVSG Update Process:** When the Executive Director determines that a new version of the VVSG should be published based on feedback from section 4.4, the process detailed in section 222 of HAVA will be followed. The EAC expects that key stakeholders will be involved throughout this update process.
 - 4.5.1. The EAC will work with NIST and the TGDC to address relevant proposed changes gathered from section 4.4 and draft revisions to the sections of the VVSG affected by the proposed changes.
 - 4.5.2. The Executive Director will submit the draft revised VVSG to the EAC's Board of Advisors and Standards Board Executive Board for review and comment. The draft revised VVSG will also be posted for public comment.
 - 4.5.3. The EAC will collaborate with NIST to review and address all comments. Comments will be posted to the EAC website once addressed. Concurrently, the Testing and Certification Program Director will draft updates to relevant sections of the program manuals and test

assertions, if necessary. Program manuals for the new standards will be posted for public comment.

4.5.4. The Testing and Certification Program Director will submit the updated VVSG and program documentation to the Executive Director. The Executive Director will forward all revised VVSG documentation to the Commissioners, and will publish redline versions on the EAC website.

4.5.5. The Commissioners may meet with stakeholders and shall hold a public hearing prior to voting on the revised VVSG. This vote may not take place less than 90 days from the date the Executive Director submits the draft revised VVSG to the Board of Advisors and Standards Board Executive Board as described in section 4.5.2.

4.5.6. The Commissioners will vote on whether to adopt the updated VVSG. For the purposes of this policy, (1) “adopted” means that the Commission has accepted this copy of the VVSG as the final version and further edits, additions, or deletions outside of minor errata published to the EAC website cannot be made without incrementing the version; and (2) “implemented” means one calendar year has passed since a VSTL has added the new version to its scope of accreditation.

If an updated scope of accreditation is not necessary, the new VVSG version will be implemented with the Commissioner’s vote of adoption. It is important to note that there may be a considerable period between adoption and implementation, depending on the magnitude of the change to the VVSG and the work required for a VSTL to update its scope of accreditation.

4.6. **Commissioner Quorum:** In the event the EAC is without a quorum of Commissioners and adoption of a new VVSG standard is not possible, section 4.4 will be executed on an annual basis, and sections 4.5.1 through 4.5.3 will be executed, as necessary. Recommendations provided to the EAC for standard updates or changes will continue to be collected, evaluated, and drafted in accordance with the process in HAVA. The EAC can hold public meetings without quorum, however, adoption of updated standards cannot be accomplished without quorum. Once a quorum of Commissioners is reestablished, the process will proceed through sections 4.5.4, 4.5.5, and 4.5.6, as applicable, including all changes recommended previously up to section 4.5.3 in the process.