



Testimony
Before the U.S. Election Assistance Commission

Certification Program Manual and Laboratory Accreditation
Program Manual Testimony and Recommendation

Public Meeting March 31, 2015

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As I noted in my testimony before the Commission on February 24, 2015, the initial versions of the EAC Certification Program Manual and Voting System Test Laboratory manuals were adopted by the EAC Commissioners in December of 2006 and July of 2008, respectively. EAC experience in working with both manuals while at the same time working to mature the certification and lab accreditation programs themselves led us to the conclusion that the manuals needed revision.

Today I would like to outline some of the more important substantive changes to these documents and make a recommendation that the Commission then vote to adopt these documents. Remember that the overall goal of the updates made to these documents was to streamline the process and to make the process quicker and more efficient for the vast majority of stakeholders.

A 60 day substantive public comment period for the Version 2.0 of the Lab Manual opened on April 16, 2013 and closed on June 17, 2013. A 60 day substantive public comment period for Version 2.0 of the Certification Program Manual opened on November 30, 2010 and closed on January 31, 2011.

Voting System Test Laboratory Program Manual
Major substantive changes:

- Whenever possible, the EAC will conduct the required accreditation audit and any follow up on site visits at the same time as NVLAP accreditation audit or follow up on site visits. This change will potentially relieve some of

the burden on the labs to prepare for two separate audits in close proximity to one another.

- The Test Readiness Review (TRR) is the mechanism used by the EAC to ensure that test and evaluation resources are not committed to a voting system that is not ready for testing by a VSTL. Over the course of our program, voting systems have been submitted to the EAC VSTLs that appeared to have little or no internal Beta testing, that were missing hardware components, that had incomplete source code, and that had incomplete documentation. These submissions resulted in test campaigns that took years to complete instead of months, resulted in numerous testing discrepancies needing to be resolved and corrected and cost the voting system manufacturers a significant amount of money. We feel that the Test Readiness Review will prevent the vast majority of these problems. TRR requires an initial review by the VSTL which will include:
 - **System Technical Data Package (TDP):** The voting system technical data package shall be reviewed to ensure all elements required by the VVSG are present.
 - **System Components:** The VSTL shall review the submitted voting system to ensure all components required to configure the voting system as defined in the system TDP are delivered to the VSTL and appear to be operational and in good working order. Any component not available at the time of this review shall be delivered to the VSTL by the voting system manufacturer within 30 days of the initial TRR, or testing of the system will be halted and the EAC notified that the system is not ready for testing.
 - **Preliminary Source Code Review:** The VSTL shall conduct a preliminary review of no less than 1% of the total lines of code (LOC) of every software package, module or product submitted for testing in order to ensure that the code is mature and does not contain any systematic non-conformities.
 - **Mark Reading:** The system shall be able to read a fully filled mark if it is an optical scan system.
 - **Summary of COTS components.** This summary should outline which components of the voting system are COTS products and shall be updated with each test campaign
- VSTLs will be required to use the Virtual Review Tool (VRT) to identify the standards that apply to the system being tested, identify the testing to be performed and provide additional information as required. The EAC developed this secure, web based application to replace the cumbersome excel spreadsheet that we used at the beginning of the program to track testing of all VVSG requirements.

- **Acceptance of Prior Testing.** Testing previously performed on a voting system by a VSTL or by a third party test laboratory operating at the direction of a VSTL, may be reused at the discretion of the lead VSTL and the EAC. The EAC encourages VSTLs to use such testing to fulfill certification requirements. The VSTL must attain written approval from the EAC for all reuse requests. In order for the EAC to accept prior testing, lead VSTLs must provide evidence that the requirements below are met. Prior testing is valid when:

The discrete software or hardware component of the voting system previously tested is demonstrably identical to the voting system presently offered for testing. Lead VSTLs must examine and/or compare the components and documentation to ensure there is no change in the voting system. When valid prior testing is used, the system presented must be subject to regression testing, functional testing and system integration testing, and any other testing deemed necessary to ensure compliance with the VVSG.

Voting system manufacturers have noted that the ability to use prior testing is an important cost and time saving mechanism and we agree under the stipulations noted above and with the review and approval of the VSTL.

During the public comment period, the Laboratory Manual received 22 comments from 2 separate commenter's. All comments were considered during the EAC staff revision of the document.

Testing and Certification Program Manual *Major substantive changes:*

- **Technology Testing Agreement (TTA)** related to new technologies. This new section simply copies the TTA requirements described by the EAC in our Notice of Clarification (NOC) 2014-01 which clarified Section 3.2.2.4, Emerging Technologies, for systems submitted under the Extensions Clause of the VVSG.

If a voting system or component thereof is eligible for a certification under this program and employs technology that is not addressed by a currently accepted version of the VVSG, the relevant technology shall be subjected to full integration testing and shall be tested to ensure that it operates to the Manufacturer's specifications and that the proper security risk assessments and quality assurance processes are in place. The Technology Testing Agreement (TTA) process is intended to provide additional clarification and guidance to enhance the testing and certification process for voting systems incorporating new or emerging technology. The remainder of the system will be tested to the applicable Federal standards.

The agreement process includes a meeting or series of meetings between the manufacturer, VSTL and EAC to exchange information and to move toward a mutual agreement on the testing of the voting system. Generally, the EAC and the VSTL will attempt to incorporate the least burdensome way of testing the product that has a reasonable likelihood of success and ability to reach a determination that the product has met the requirements of the VVSG, manufacturer specifications and any other testable requirements mutually agreed upon.

- **Deficiency Criteria.** The EAC has developed a number of metrics to determine if voting systems under test by a VSTL should be removed from the EAC's Testing and Certification Program and returned to a manufacturer for further readiness review and/or QA testing. These metrics include:
 - Testing continues for more than 18 months without a test report being issued;
 - Inactivity as a result of a manufacturer's decision or lack of action, which hinders the reasonable progression of the test campaign, that exceeds 90 calendar days;
 - A significant deficiency caused by one or more major architectural flaws, requiring significant redesign to adequately eliminate the deficiency.
 - The occurrence of 250 or more unique deficiencies, excluding coding convention deficiencies.
 - Software Defect Density Ratio (Errors per 1000 lines of code).
 - A maximum number of errors in each of four separate categories labeled Fatal, Severe, Significant and Insignificant.

- **Test Report Writing.** We added a requirement that all information provided in the Test Report shall be provided in a clear, complete and unambiguous manner, so that a wide range of readers and users of the document will be able to understand the evaluation supporting a system's certification.

- **Technical Bulletins.** A new requirement that provide any technical bulletins or product advisories issued on EAC certified voting systems to the EAC at the time they are issued to jurisdictions impacted by the advisory. EAC must receive these via email or postal mail within 24 hours of issuance. This provision allows the entire election community to have a transparent avenue to product advisories.

During the public comment period, the Testing and Certification Manual received 43 comments from 3 separate commenter's. All comments were considered during the EAC staff revision of the document.

Final 30 Day public Comment Period for PRA Purposes:

As I noted during my testimony last month, as part of our continuing effort to reduce paperwork and respondent burden in accordance with the Paperwork Reduction Act of 1995, once these documents are approved by the Commission, the EAC will invite the public to take a 30 day opportunity to comment on EAC's request to collect certain information in the revised Manuals. Comments will be invited on: (a) Whether the proposed collection of information is necessary for the proper performance of the functions of the agency; (b) the accuracy of the agency's estimate of the burden of the proposed information collection; (c) ways to enhance the quality, utility, and clarity of the information to be collected; and (d) ways to minimize the burden of the information collection on respondents. Comments submitted in response to this notice will be summarized and included Notices in the request for approval of this information collection by the Office of Management and Budget. This notice will requests comments ONLY on the four criteria noted above. Upon approval by OMB, the EAC manuals will receive their OMB Control numbers which will be good for a period of 3 years.

Staff Recommendation:

Chair McCormick, Commissioners, the EAC staff now recommends that the Commissioners vote to adopt the Voting Systems Testing and Certification Program Manual and Voting System Test Laboratory Program Manual as presented and to cause the Manuals to be published in the Federal Register for a 30 Day Public Comment Period related to the paperwork burden analysis. Madam Chair, I should also note that should this document be adopted today, staff will be ready to post the manuals on the EAC website tomorrow with the PMB Control Number noted as "Pending."