**IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF GEORGIA
ATLANTA DIVISION**

DONNA CURLING, *et al.*

    Plaintiffs,

v.

BRAD RAFFENSPERGER, *et al.*,

    Defendants.

CIVIL ACTION FILE

NO. 1:17-cv-2989-AT

**STATE DEFENDANTS' RESPONSE
TO THE COURT'S ORDER, [DOC. 957]**

On October 7, 2020, Plaintiffs jointly filed a "Notice of Filing of

Correspondence with State Defendants and their Refusal to Comply with the

Court's September 28, 2020 Docket Order," [Doc. 955]. Consistent with their

prior filings in this case, Plaintiffs attacked Defendants and their counsel for

not being adequately responsive to their frequent email demands—ignoring

any rules of procedure or process when seeking to obtain additional evidence

for their pending preliminary injunction motion (heard by this Court weeks

ago). Plaintiffs went on to pose four interrogatories which they assert—

without citation to authority—Defendants "should be required to publicly

provide . . . to the Court immediately." *Id.* Today, at 9:18 am, the Court

issued an Order directing Defendants to respond to those same four questions

this afternoon. [Doc. 957]. State Defendants provide this response to the

Court, subject to the objections contained herein.

INTRODUCTION

Defendants are not—and have never been—seeking to employ a

"campaign of obstruction and obfuscation," as Plaintiffs suggest.[1] [Doc. 955 at

5]. Rather, Defendants have been clear from the start of questions regarding

EAC approval that the process for seeking certification and approval of *de*

minimis changes is between the Voting System Manufacturer and the

Election Assistance Commission. As Dr. Coomer (appearing voluntarily)

explained during the September 28, 2020 Teleconference, the software

change was submitted by Dominion to the EAC-Certified Voting System Test

Lab after testing by Dominion. Tr. 13:2-5. He then explained that Dominion

was going to use the "process within the EAC for rapid approval of *de*

minimis software changes." *Id*. at 39:3-7, 63:12-24.

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[1] Of course, it is these kinds of inflammatory mischaracterizations that have
made this case unique among all of those filed about elections in this District.
It is also indicative of why the State Defendants have remained steadfast in
their position that this case should proceed normally and subject to the
standard rules of evidence and civil procedure, both of which allow the State
Defendants the opportunity to address actual discovery requests and not
informal email demands. The bright lines afforded by the rules are highly
necessary, particularly when the Plaintiffs' informal demands have created
most of the problems about which they complain.

Similarly, during the October 1, 2020 Teleconference, counsel for the State Defendants explained that the process of EAC approval happens in the absence of State Defendants—the manufacturer determines whether to seek such approval and has responsibility for those submissions. *See* Tr. 10:3-12; 11:15-12:8. Dr. Coomer then explained again the process: (1) the EAC-certified test lab tests the change and determines whether it is *de minimis* (which has occurred); (2) the lab writes a report (which is [Doc. 939]); (3) Dominion submits the modification to the EAC through an Engineering Change Order (ECO) (which is [Doc. 953-2]); and (4) the EAC approves the change for the current EAC-certified system. Oct. 1, 2020 Tr. 11:10-12:8.

But the Court (and Plaintiffs) need not rely on the explanation from State Defendants and Dr. Coomer—the Election Assistance Commission's Voting System Testing and Certification Manual Confirms this fact. *See* Exhibit 1, Section 3.4.3.1; *see also* Notice of Clarification, attached as Exhibit 2, Sec. 3.4.3.1 ("*Manufacturers* must submit any proposed de minimis change…"), Sec. 3.4.3.3 ("EAC will inform the *Manufacturer* and VSTL of its determination") (emphasis added). Despite the State Defendants' lack of firsthand knowledge of the status of the process, State Defendants and their undersigned counsel have nonetheless sought to be responsive to the Court's inquiries.

The same can also be said for Dominion, the State's Voting System Manufacturer. Despite not being a party to this proceeding, Dominion has "voluntarily provided thousands of pages of documents on days' notice" and made Dr. Coomer available on even less notice. [Doc. 955-2 (email between Dominion counsel and Plaintiffs' counsel)]. As a reward for their cooperation, Plaintiffs have blanketed the State's local elections officials with false and misleading information—sending out Dr. Coomer's testimony to those local officials, days after the Court ordered it unsealed over State Defendants' objection and without opportunity for Dominion to formally respond. *See* Exhibits 3 (Oct. 5, 2020, Email from Coalition "Analyst"), Exhibit 4 (Oct. 7, 2020, Email from Coalition "Analyst" and attachment A thereto). Indeed, Coalition Plaintiffs publicly claimed there were issues regarding scanners in Cherokee County and informed the Court they would "circle back to the Court and report to the Court on [their] findings" after their visit to Canton. Sep. 28, 2020 Teleconference Tr. 42:9-12. They never did, likely because their visit confirmed there actually was no issue. Their (and Curling Plaintiffs') emails and statements to the Court continue to confirm their efforts to undermine administration of elections in Georgia to achieve their preference of hand-marked paper ballots.

Importantly, Plaintiffs' tactics of intimidating local officials to adopt the relief they seek from this Court are not occurring in a vacuum. In addition to the Secretary's efforts to prepare for the upcoming election (with early voting starting Monday, October 12, 2020), local elections officials are also working tirelessly to prepare for a major election. Unfortunately, election administrators are being attacked on multiple fronts, from Plaintiffs in this case to national political figures. State Defendants respectfully submit that this Court should not be yet another avenue for these unfounded attacks.

I.   Defendants' Objections

Bearing in mind the State Defendants' respect for this Court and its weighty responsibilities in a matter of importance, State Defendants raise the following objections to avoid risk of their waiver:

1. Plaintiffs' relief was improperly sought. Rule 7(b)(1) of the Federal Rules of Civil Procedure requires a *motion* to request a Court Order. Plaintiffs instead chose to submit a "Notice of Filing," as they have many other times in this case, to seek wide-ranging *ad hoc* relief. This tact makes sense when considering the information sought should be directed at nonparty Dominion, yet no discovery requests have been made. Similarly, the "Notice of Filing" reads as a motion to compel—

but again, there is nothing to compel—or motion for contempt, but
Plaintiffs have not done so.

2. The Evidentiary Record on Plaintiffs' Motion is Closed. As the party
seeking extraordinary relief, the Plaintiffs bear the burden of proof.
McDonald's Corp. v. Robertson, 147 F.3d 1301, 1306 (11th Cir. 1998).
Realizing they failed to carry their burden, Plaintiffs continue to assert
new theories and submit (or request) "evidence" under the guise of
"Notices of Filing" and email demands void of any consistency with
formal discovery. Plaintiffs should not be permitted to rely on those
email demands and filings submitted by the State Defendants—after
the close of the three-day hearing—at the Court's direction (without
motion) to satisfy their burden.

3. While the Court possesses inherent authority and responsibility to
manage this case, it should not conduct independent factfinding as part
of that process.[2] This Court should allow the normal, adversarial
discovery process to proceed so that a fully tested record can be

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[2] The Eleventh Circuit has addressed this issue from a slightly different
perspective, and its precedent provides an alternative basis for the
Secretary's objection. *See Johnson v. United States*, 780 F.2d 902, 910 (11th
Cir. 1986). *Cf. Paez v. Sec'y, Florida Dep't of Corr.*, 947 F.3d 649, 652 (11th
Cir. 2020) (addressing judicial notice).

developed. This case involves issues that should be decided on a full record, not a rushed preliminary-injunction standard, and not on an apparently non-existent new motion concerning EAC Certification and what State law requires.[3]

II.   State Defendants' Response to the Court's Order.

Subject to the foregoing objections, State Defendants provide the following responses to the Court's Order:

1. <u>Was the Pro V&V report (Doc. 939) provided to the EAC and, if so, when and by whom?</u>

    Yes. Mr. Cobb's declaration and the attached documentation demonstrate that the ECO and the Pro V&V report were sent to the EAC on Friday, October 2, 2020 by Pro V&V by email and Pro V&V informed the Secretary of State of that fact. Second Supplemental Declaration of Jack Cobb ("Cobb Dec."), Exhibit 5, at ¶¶ 4-5 and Ex. 1, thereto.

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[3] To the extent such a claim is present (though not included in Plaintiffs' Complaint), this Court does not possess jurisdiction to decide a novel issue of state law. *See Baggett v. First Nat'l Bank of Gainesville*, 117 F.3d 1342 (11th Cir. 1997) ("state courts, not federal courts, should be the final arbiter of state law") (citing *Hardy v. Brimingham Bd. of Educ.*, 954 F.2d 1546, 1553 (11th Cir. 1992)).

2. Was the ECO (Doc. 953-2) provided to the EAC and, if so, when and by whom?

Yes. Mr. Cobb's declaration and the attached documentation demonstrate that the ECO was sent to the EAC on Monday, October 5, 2020 by Dominion and then resubmitted on Tuesday, October 6, 2020. The Pro V&V Analysis Form was submitted on Wednesday, October 7, 2020. Cobb Dec. at ¶¶ 6-7, Exs. 2 and 3, thereto.

3. Has the EAC responded, formally or informally, to either the Pro V&V Report or the ECO or any other related communication addressing the software that is now being installed on Georgia's BMDs and, if so, what was the response and when was it received?

No. According to Mr. Cobb's declaration, no response has been received yet. Cobb Dec. at ¶ 8.

4. If the answer to (1) is no, why not and what was the basis for State Defendants' representation to the Court on Friday and their "understanding" yesterday to the contrary?

The answer to (1) is yes. But to be clear: the basis of State Defendants' representation was Mr. Cobb's statement that he had sent the letter report to the EAC. Cobb Dec. at ¶ 5. Regardless, the State Defendants respectfully submit no meaningful difference was intended in any language used in the filing, rather since this process occurs at the direction of nonparty Dominion

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(not the State), counsel for the State Defendants were seeking to provide an

appropriate response.

Respectfully submitted, this 9th day of October 2020.

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Counsel for State Defendants

<u>CERTIFICATE OF COMPLIANCE</u>

Pursuant to L.R. 7.1(D), the undersigned hereby certifies that the foregoing **STATE DEFENDANTS' RESPONSE TO THE COURT'S ORDER, [DOC. 957]** has been prepared in Century Schoolbook 13, a font and type selection approved by the Court in L.R. 5.1(B).

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/s/ Vincent Russo
Vincent Russo

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Exhibit 1

Testing & Certification Program Manual

Version 2.0

Effective May 31, 2015
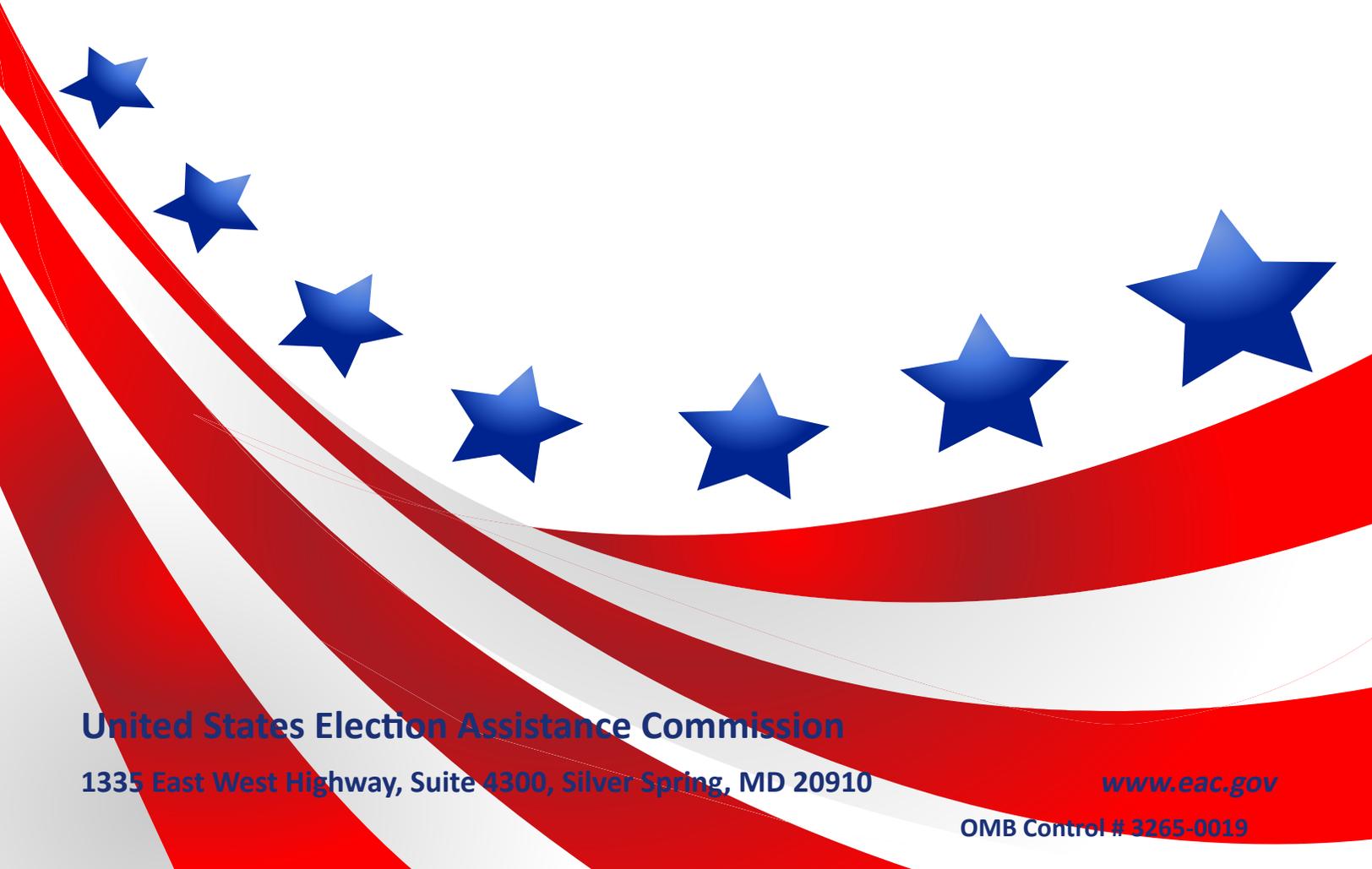
United States Election Assistance Commission

1335 East West Highway, Suite 4300, Silver Spring, MD 20910   *www.eac.gov*

OMB Control # 3265-0019

The reporting requirements in this manual have been approved under the Paperwork Reduction Act of 1995, OMB Control No. 3265-0019, expiring June 30, 2018. Persons are not required to respond to this collection of information unless it displays a currently valid OMB number. Information gathered pursuant to this document and its forms will be used solely to administer the EAC Testing and Certification Program. This program is voluntary. Individuals who wish to participate in the program, however, must meet its requirements. The estimated total annual hourly burden on the voting system manufacturing industry and election officials is 105 hours. This estimate includes the time for reviewing the instructions, gathering information and completing the prescribed forms. Send comments regarding this burden estimate or any other aspect of this collection, including suggestions for reducing this burden, to the U. S. Election Assistance Commission, Voting System Testing and Certification Program, Office of the Program Director, 1335 East West Highway, Suite 4300, Silver Spring, MD 20910.

Table of Contents

EAC Voting System Testing and Certification Program Manual, Version 2.0

1. Introduction

1.1. Background. 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 Federal Voting System Testing and Certification Program ("Certification 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, de-certification 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 Manual provides the procedural requirements of the EAC Voting System Testing and Certification Program. Although participation in the program is voluntary, adherence to the program's procedural requirements is mandatory for participants. The procedural requirements of this Manual supersede any prior voting system certification requirements issued by the EAC.

1.4. Purpose. The primary purpose of the EAC's Voting System Testing and Certification Program Manual is to provide clear procedures to Manufacturers for the testing and certification of voting systems to specified Federal standards consistent with the requirements of HAVA Section 321(a)(1). The program, however, also serves to do the following:

1.4.1.Support State certification programs.

1.4.2.Support local election officials in the areas of acceptance testing and pre-election system verification.

1.4.3.Increase quality control in voting system manufacturing.

1.4.4.Increase voter confidence in the use of voting systems.

1.5. Manual. This Manual is a comprehensive presentation of the EAC's Voting System Testing and Certification Program. It is intended to establish all of the program's administrative requirements.

1.5.1.<u>Contents</u>. The contents of the Manual serve as an overview to the program itself. The Manual contains the following chapters:

1.5.1.1. *Manufacturer Registration.* Under the program, a Manufacturer is required to register with the EAC prior to participation. This registration provides the EAC with needed information and requires the Manufacturer to agree to the requirements of the Certification Program. This chapter sets out the requirements and procedures for registration.

1.5.1.2. *When Voting Systems Must Be Submitted for Testing and Certification.* All systems must be submitted consistent with this Manual before they may receive a certification from the EAC. This chapter discusses the various circumstances that require submission to obtain or maintain a certification.

1.5.1.3. *Certification Testing and Review.* Under this program, the testing and review process requires the completion of an application, employment of an EAC-accredited laboratory for system testing, and technical analysis of the laboratory test report by the EAC. The result of this process is an Initial Decision on Certification. This chapter discusses the required steps for voting system testing and review.

1.5.1.4. *Grant of Certification.* If an Initial Decision to grant certification is made, the Manufacturer must take additional steps before it may be issued a certification. These steps require the Manufacturer to document the performance of a trusted build (*see* definition at section 1.16), the deposit of software into a repository, and the creation of system identification tools. This chapter outlines the action that a Manufacturer must take to receive a certification and the Manufacturer's post-certification responsibilities.

1.5.1.5. *Denial of Certification.* If an Initial Decision to deny certification is made, the Manufacturer has certain rights and responsibilities under the program. This chapter contains procedures for requesting reconsideration, opportunity to cure defects, and appeal.

1.5.1.6. *Decertification.* Decertification is the process by which the EAC revokes a certification it previously granted to a voting system. It is an important part of the Certification Program because it serves to ensure that the requirements of the program are followed and that certified voting systems fielded for use in Federal elections maintain the same level of quality as those presented for testing. This chapter sets procedures for Decertification and explains the Manufacturer's rights and responsibilities during that process.

1.5.1.7. *Quality Monitoring Program.* Under the Certification Program, the EAC will implement a quality monitoring process that will help ensure that voting systems certified by the EAC are the same systems sold by Manufacturers. The quality

monitoring process is a mandatory part of the program and includes elements such as fielded voting system review, anomaly reporting, and manufacturing site visits. This chapter sets forth the requirements of the Quality Monitoring Program.

1.5.1.8. *Interpretation*. An Interpretation is a means by which a registered Manufacturer or Voting System Test Laboratory (VSTL) may seek clarification on a specific Voluntary Voting System Guidelines (VVSG) standard. This chapter outlines the policy, requirements, and procedures for requesting an Interpretation.

1.5.1.9. *Trade Secrets, Confidential Commercial, and Personal Information*. Federal law protects certain types of information provided to the government from public release. This chapter outlines the program's policies, procedures, and responsibilities associated with the public release of potentially protected commercial information.

1.5.2. <u>Maintenance and Revision</u>. Version 2.0 of the Manual will continue to be improved and expanded as experience and circumstances dictate. The Manual will be reviewed periodically and updated to meet the needs of the EAC, Manufacturers, VSTLs, election officials, and public policy. The EAC is responsible for revising this document. And all revisions will be made consistent with Federal law. Substantive input from stakeholders and the public will be sought whenever possible, at the discretion of the agency. Changes in policy requiring immediate implementation will be noticed via policy memoranda and will be issued to each registered Manufacturer. Changes, addendums, or updated versions will also be posted to the EAC's website at <u>www.eac.gov</u>.

1.6. Program Methodology. The EAC's Voting System Testing and Certification Program is one part of the overall conformity assessment process that includes companion efforts at State and local levels.

1.6.1. <u>Federal and State Roles</u>. The process to ensure voting equipment meets the technical requirements is a distributed, cooperative effort of Federal, State, and local officials in the United States. Working with voting equipment manufacturers, each of these officials has a unique responsibility for ensuring the equipment a voter uses on Election Day meets specific requirements.

1.6.1.1. The EAC Program has primary responsibility for ensuring voting systems submitted under this program meet Federal standards established for voting systems.

1.6.1.2. State officials have responsibility for testing voting systems to ensure the system will support the specific unique requirements of each individual State. States may use EAC VSTLs to perform testing of voting systems to unique state

standards while the systems are being tested to Federal standards. The EAC will not, however, certify voting systems to state standards.

1.6.1.3. State or local officials are responsible for making the final purchase choice and are responsible for deciding which system offers the best fit and value for their specific State or local jurisdiction.

1.6.1.4. State or local officials are also responsible for performing acceptance testing to ensure that the equipment delivered is identical to the equipment certified at the federal and state levels, is fully operational, and meets the contractual requirements of the purchase.

1.6.1.5. State or local officials should perform pre-election logic and accuracy testing and post-election auditing to confirm equipment is operating properly and is unmodified from its certified state.

1.6.2. <u>Conformity Assessment, Generally</u>. Conformity assessment is a system established to ensure a product or service meets the applicable requirements. Many conformity assessment systems exist to protect the quality and ensure compliance with standards of products and services. All conformity assessment systems attempt to answer a variety of questions:

1.6.2.1. *What specifications are required of an acceptable system*? For voting systems, the EAC Voluntary Voting System Guidelines (VVSG), Notice of Clarification and Request for Information address this issue. States and local jurisdictions also have supplementing standards.

1.6.2.2. *How are systems tested against required specifications?* The EAC Voting System Testing and Certification Program is a central element of the larger conformity assessment system. The program, as set forth in this Manual, provides for the testing and certification of voting systems to identified versions of the VVSG. The Testing and Certification Program's purpose is to verify voting systems meet manufacturer specifications and the requirements of the VVSG.

1.6.2.3. *Are the testing authorities qualified to make an accurate evaluation*? The EAC accredits VSTLs, after the National Institute of Standards and Technology (NIST) National Voluntary Lab Accreditation Program (NVLAP) has reviewed their technical competence and lab practices to ensure the test authorities are fully qualified. Furthermore, EAC technical experts review all test plans and test reports from accredited laboratories to ensure an accurate and complete evaluation. Many States provide similar reviews of laboratory reports.

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      1.6.2.4. *Will Manufacturers deliver units within manufacturing tolerances equivalent to those tested?* The VVSG and this Manual require vendors to have appropriate change management and quality control processes to control the quality and configuration of their products. The Certification Program provides mechanisms for the EAC to verify Manufacturer quality processes through field system testing and manufacturing site visits. States have implemented policies for acceptance of delivered units.

1.7. Program Personnel. All EAC personnel and contractors associated with this program are held to the highest ethical standards. All agents of the EAC involved in the Certification Program are subject to conflict-of-interest reporting and review, consistent with Federal law and regulation.

1.8. Program Records. The EAC Program Director is responsible for maintaining accurate records to demonstrate the testing and certification program procedures have been effectively fulfilled and to ensure the traceability, repeatability, and reproducibility of testing and test report review. All records will be maintained, managed, secured, stored, archived, and disposed of in accordance with Federal law, Federal regulations, and procedures of the EAC.

1.9. Submission of Documents. Any documents submitted pursuant to the requirements of this Manual shall be submitted:

    1.9.1. Via secure e-mail, if sent electronically, or physical delivery of a compact disk ==or other media deemed acceptable by the EAC,== unless otherwise specified.

    1.9.2.In a Microsoft Word or Adobe PDF file, formatted to protect the document from alteration.

    1.9.3.With a proper signature when required by this manual. Documents requiring an authorized signature may be signed with an electronic representation or image of the signature of an authorized management representative and must meet any and all subsequent requirements established by the Program Director regarding security.

    1.9.4. By certified mail or similar means allowing for tracking, if sent via physical delivery, to the following address:

<div align="center">

Testing and Certification Program Director
U.S. Election Assistance Commission
1335 East West Highway, Suite 4300
Silver Spring, MD 20910

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1.10.   Receipt of Documents—Manufacturer. For purposes of this Manual, a document, notice, or other communication is considered received by a Manufacturer upon one of the following:

1.10.1. The actual, documented date the correspondence was received (either electronically or physically) at the Manufacturer's place of business; or

1.10.2. If no documentation of the actual delivery date exists, the date of constructive receipt for the communication. For electronic correspondence, documents will be constructively received the day after the date sent. For mail correspondence, the document will be constructively received 3 days after the date sent.

1.10.3. The term receipt shall mean the date a document or correspondence arrives (either electronically or physically) at the Manufacturer's place of business. Arrival does not require that an agent of the Manufacturer open, read, or review the correspondence.

1.11. Receipt of Documents—EAC. For purposes of this Manual, a document, notice, or other communication is considered received by the EAC upon its physical or electronic arrival at the agency. All documents received by the agency will be physically or electronically date stamped and this stamp shall serve as the date of receipt. Documents received after the regular business day (5:00 pm Eastern Standard Time), will be treated as if received on the next business day.

1.12. EAC Response Timeframes. In recognition of the responsibilities and challenges facing Manufacturers as they work to meet the requirements imposed by this program, State certification programs, customers, State law and production schedules, the EAC will provide timeframes for its response to significant program elements. This shall be done by providing current metrics on the EAC's website regarding the average EAC response time for (1) approving Test Plans, (2) issuing Initial Decisions, and (3) issuing Certificates of Conformance.

1.13. Records Retention—Manufacturers. The Manufacturer is responsible for ensuring all documents submitted to the EAC, or that otherwise serve as the basis for the certification of a voting system, are retained. A copy of all such records shall be retained as long as a voting system is offered for sale or supported by a Manufacturer and for 5 years thereafter.

1.14. Record Retention—EAC. The EAC shall retain all records associated with the certification of a voting system as long as such system is fielded in a State or local election jurisdiction for use in Federal elections. The records shall otherwise be retained or disposed of consistent with Federal statutes and regulations.

1.15. Publication and Release of Documents. The EAC will release documents consistent with the requirements of Federal law. It is EAC policy to make the certification process as open and transparent as possible. Any documents (or portions thereof) submitted under this program will be made available to the public unless specifically protected from release by law. The primary means for making this information available is through the EAC website.

1.16.   **Definitions**. For purposes of this Manual, the terms listed below have the following definitions.

Appeal. A formal process by which the EAC is petitioned to reconsider an Agency Decision.

Appeal Authority. The individual or individuals appointed to serve as the determination authority on appeal.

Build Environment. The disk or other media that holds the source code, compiler, linker, integrated development environments (IDE), and/or other necessary files for the compilation and on which the compiler will store the resulting executable code.

Certificate of Conformance. The certificate issued by the EAC when a system has been found to meet the requirements of the VVSG. The document conveys certification of a system.

Commercial Off-the-Shelf. Software, firmware, device or component that is used in the United States by many different people or organizations for many different applications other than certified voting systems and that is incorporated into the voting system with no manufacturer- or application-specific modification.

Commission. The U.S. Election Assistance Commission, as an agency.

Commissioners. The serving commissioners of the U.S. Election Assistance Commission.

Component. An identifiable and discrete part of the larger voting system essential to the operation of the voting system, and an immediate subset of the system to which it belongs.

Compiler. A compiler is a computer program that translates programs expressed in a high-level language into machine language equivalents.

Days. The term *days* shall refer to calendar days, unless otherwise noted. When counting days, for the purpose of submitting or receiving a document, the count shall begin on the first full calendar day after the day the document was received.

De minimis change order. A de minimis change order is a change to a certified voting system's hardware, software, Technical Data Package (TDP), or data, the nature of which will not materially alter the system's reliability, functionality, capability, or operation. Any changes made to a system under test will result in the manufacturer supplying a list and detailed description of all changes.

Disk Image. An exact copy of the entire contents of a computer disk.

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Election Official. A State or local government employee who has as one of his or her primary duties the management or administration of a Federal election.

Federal Election. Any primary, general, runoff, or special election in which a candidate for Federal office (President, Senator, or Representative) appears on the ballot. In addition, for the purposes of this Manual, the term will include any and all Pre-Election Testing and Post-Election Testing and/or auditing done in conjunction with any primary, general, runoff, or special election involving a candidate for Federal office.

Fielded Voting System. A voting system purchased or leased by a State or local government that is being use in a Federal election.

File Signature. A file signature, sometimes called a HASH value, creates a value that is computationally infeasible of being produced by two similar but different files. File signatures, a set of files produced using HASH algorithm, are used to verify that files are unmodified from their original version.

HASH Algorithm. An algorithm that maps a bit string of arbitrary length to a shorter, fixed-length bit string. (A HASH uniquely identifies a file similar to the way a fingerprint identifies an individual. Likewise, as an individual cannot be recreated from his or her fingerprint, a file cannot be recreated from a HASH. The HASH algorithm used primarily in the NIST National Software Reference Library (NSRL), and this program, is the Secure HASH Algorithm (SHA-1) specified in Federal Information Processing Standard (FIPS) 180-1.)

Installation Device. A device containing program files, software, and installation instructions for installing an application (program) onto a computer. Examples of such devices include installation disks, flash memory cards, and PCMCIA cards.

Integration Testing. The end-to-end testing of a full system configured for use in an election to assure that all legitimate configurations meet applicable standards.

Lines of Code. Any executable statements, flow control statements, formatting (e.g. Blank lines) and comments.

Linker. A computer program that takes one or more objects generated by compilers and assembles them into a single executable program.

Manufacturer. The entity with ownership and control over a voting system submitted for certification.

Mark of Conformance. A uniform notice permanently posted on a voting system signifying it is EAC certified.

<u>Memorandum for the Record</u>. A written statement drafted to document an event or finding, without a specific addressee other than the pertinent file.

<u>Modification</u>. A modification is any change to *a previously EAC-certified voting system*'s hardware, software, or firmware that is not classified as a de minimis change order.

<u>Proprietary Information</u>. Commercial information or trade secrets protected from release under the Freedom of Information Act and the Trade Secrets Act.

<u>Sub-assembly</u>. A major functional piece of equipment essential to the operational completeness of a component of a voting system. Examples of major sub-assemblies for voting systems include, but are not limited to:
- Printers
- Touch screen terminals
- Scanners/Tabulators
- Card readers
- Ballot boxes
- Keyboards
- CPUs
- Memory modules, USB drives, and other portable memory devices
- External data storage devices, external hard drives, etc.
- Motherboards, processor board and other PWB assemblies, when supplied separately from a complete unit

<u>System Identification Tools</u>. Tools created by a Manufacturer of voting systems which allow elections officials to verify that the hardware and software of systems purchased are identical to the systems certified by the EAC.

<u>Technical Reviewers</u>. Experts in the area of voting system technology and conformity assessment appointed by the EAC to provide expert guidance.

<u>Testing and Certification Decision Authority</u>. The EAC Executive Director or Acting Executive Director.

<u>Testing and Certification Program Director</u>. The individual appointed by the EAC Executive Director to administer and manage the Testing and Certification Program.

<u>Trusted Build</u>. A witnessed software build where source code is converted into machine-readable binary instructions (executable code) in a manner providing security measures which help ensure that the executable code is a verifiable and faithful representation of the source code.

<u>Voting System</u>. The total combination of mechanical, electromechanical, and electronic equipment (including the software, firmware, and documentation required to program, control,

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and support the equipment) used to define ballots; cast and count votes; report or display election results; connect the voting system to the voter registration system; and maintain and produce any audit trail information.

Voting System Test Laboratories. Independent testing laboratories accredited by the EAC to test voting systems to EAC approved voting system standards. Each Voting System Test Laboratory (VSTL) must be accredited by the National Voluntary Laboratory Accreditation Program (NVLAP) and recommended by the National Institute of Standards Technology before it may receive an EAC accreditation. NVLAP provides third party accreditation to testing and calibration laboratories. NVLAP is in full conformance with the standards of the International Organization for Standardization (ISO) and the International Electrotechnical Commission (IEC), including ISO/IEC Guide 17025 and 17011.

Voluntary Voting System Guidelines. Voluntary voting system standards developed, adopted, and published by the EAC. The guidelines are identified by version number and date.

1.17.   Acronyms and Abbreviations. For purposes of this Manual, the acronyms and abbreviations listed below represent the following terms.

Certification Program. The EAC Voting System Testing and Certification Program

COTS. Commercial Off-the-Shelf

Decision Authority. Testing and Certification Decision Authority

EAC. United States Election Assistance Commission

HAVA. Help America Vote Act of 2002 (42 U.S.C. §15301 *Et seq.)*

Labs or Laboratories. Voting System Test Laboratories

LOC. Lines of Code

NASED. National Association of State Election Directors

NIST. National Institute of Standards and Technology

NVLAP. National Voluntary Laboratory Accreditation Program

Program Director. Director of the EAC's Testing and Certification Program

VSS. Voting System Standards

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VSTL. Voting System Test Laboratory

VVSG. Voluntary Voting System Guidelines

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2. Manufacturer Registration

2.1. Overview. Manufacturer Registration is the process by which voting system Manufacturers make initial contact with the EAC and provide information essential to participate in the EAC Voting System Testing and Certification Program. Before a Manufacturer of a voting system can submit an application to have a voting system certified by the EAC, the Manufacturer must be registered. This process requires the Manufacturer to provide certain contact information and agree to certain requirements of the Certification Program. After successfully registering, the Manufacturer will receive an identification code.

2.2. Registration Required. To submit a voting system for certification or otherwise participate in the EAC voluntary Voting System Testing and Certification Program, a Manufacturer must register with the EAC. Registration does not constitute an EAC endorsement of the Manufacturer or its products. Registration of a Manufacturer is not a certification of that Manufacturer's products.

2.3. Registration Requirements. The registration process will require the voting system Manufacturer to provide certain information to the EAC. This information is necessary to enable the EAC to administer the Certification Program and communicate effectively with the Manufacturer. The registration process also requires the Manufacturer to agree to certain Certification Program requirements. These requirements relate to the Manufacturer's duties and responsibilities under the program. For this program to succeed, it is vital that a Manufacturer know and assent to these duties at the outset of the program.

   2.3.1. Information. Manufacturers are required to provide the following information.

      2.3.1.1. The Manufacturer's organizational information:

         2.3.1.1.1.   The official name of the Manufacturer.

         2.3.1.1.2.   The address of the Manufacturer's official place of business.

         2.3.1.1.3.   A description of how the Manufacturer is organized (i.e., type of corporation or partnership).

         2.3.1.1.4.   Names of officers and/or members of the board of directors.

         2.3.1.1.5.   Names of all partners and members (if organized as a partnership or limited liability corporation).

         2.3.1.1.6.   Identification of any individual, organization, or entity with a controlling ownership interest in the Manufacturer.

2.3.1.2. The identity of an individual authorized to represent and make binding commitments and management determinations for the Manufacturer (management representative). The following information is required for the management representative:

2.3.1.2.1.   Name and title.

2.3.1.2.2.   Mailing and physical addresses.

2.3.1.2.3.   Telephone number, fax number, and e-mail address.

2.3.1.3. The identity of an individual authorized to provide technical information on behalf of the Manufacturer (technical representative). The following information is required for the technical representative:

2.3.1.3.1.   Name and title.

2.3.1.3.2.   Mailing and physical addresses.

2.3.1.3.3.   Telephone number, fax number, and e-mail address.

2.3.1.4. The Manufacturer's written policies regarding its quality assurance system. This policy must be consistent with guidance provided in the VVSG and this Manual.

2.3.1.5. The Manufacturer's written policies regarding internal procedures for controlling and managing changes to, and versions of, its voting systems. Such polices shall be consistent with this Manual and guidance provided in the VVSG.

2.3.1.6. The Manufacturer's written policies on document retention. Such policies must be consistent with the requirements of this Manual.

A list of all manufacturing and/or assembly facilities used by the Manufacturer and the name and contact information of a person at each facility. The term "manufacturing and/or assembly facilities" applies to facilities that provide the following manufacturing services:

2.3.1.6.1   Final system configuration and loading of programs for customer delivery.

2.3.1.6.2.   Manufacturing of component units of the voting system.

2.3.1.6.3.   Manufacturing of major sub-assemblies of the voting system.

Manufacturing facilities for COTS components and plastic modeling facilities are **not** included in this definition and need not be reported to the EAC. The EAC reserves the right to request additional information from manufacturers related to the manufacturing process, including manufacturing facilities for the benefit of the testing and certification program.

Manufacturers shall report all current facilities that meet the above criteria. If manufacturing is not in progress at the time of a manufacturer's submission of their registration package to the EAC, the manufacturer shall report the last manufacturing facility which meets the definitions in this section. Manufacturers should also be aware that the reporting requirement is continuous and that when new manufacturing facilities are engaged, the EAC registration package submitted to the EAC must be updated to reflect the new facilities as required by Section 2.5.2 of this Manual.

2.3.1.7. The following information is required for a person at each facility:

    2.3.1.7.1.   Name and title.

    2.3.1.7.2.   Mailing and physical addresses.

    2.3.1.7.3.   Telephone number, fax number, and e-mail address.

2.3.2. <u>Agreements</u>. Manufacturers are required to take or abstain from certain actions to protect the integrity of the Certification Program and promote quality assurance. Manufacturers are required to agree to the following program requirements:

    2.3.2.1. Represent a voting system as certified only when it is authorized by the EAC and is consistent with the procedures and requirements of this Manual.

    2.3.2.2. Produce and affix an EAC certification label to all production units of the certified system. Such labels must meet the requirements set forth in Chapter 5 of this Manual.

    2.3.2.3. Notify the EAC of changes to any system previously certified by the EAC pursuant to the requirements of this Manual (see Chapter 3). Such systems shall be submitted for testing and additional certification when required.

    2.3.2.4. Permit an EAC representative to verify the Manufacturer's quality control by cooperating with EAC efforts to test and review fielded voting systems consistent with Section 8.6 of this Manual.

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2.3.2.5. Permit an EAC representative to verify the Manufacturer's quality control by conducting periodic inspections of manufacturing facilities consistent with Chapter 8 of this Manual.

2.3.2.6. Cooperate with any EAC inquiries and investigations into a certified system's compliance with VVSG standards or the procedural requirements of this Manual consistent with Chapter 7.

2.3.2.7. Report to the Program Director any known malfunction of a voting system holding an EAC Certification. A malfunction is a failure of a voting system, not caused solely by operator or administrative error, which causes the system to not function as expected during a Federal election or otherwise results in data loss. Initial Malfunction Reports should identify the location, nature, date, impact, and status of resolution (if any) of the malfunction and be filed within 30 business days of occurrence during or in preparation for a Federal election, as defined in this Manual. Final malfunction Reports shall be submitted to the EAC after the root cause of the malfunction has been determined and a permanent fix developed.

2.3.2.8. Report to the Program Director the names of each State and/or local jurisdiction using an EAC certified voting system within 5 business days of delivery of the first production unit of the voting system to the jurisdiction.

2.3.2.9. Certify the entity is not barred or otherwise prohibited by statute, regulation, or ruling from doing business in the United States.

2.3.2.10.   Agree to participate in a Kick-off Meeting at the beginning of every certification effort. The purposes of these meetings are to permit an in-depth discussion of the candidate voting system and allow both the EAC and the VSTL staff to have a live, hands-on demonstration of the voting system. The duration of this meeting shall be mutually agreed upon by all parties, but shall not be less than one business day. Topics of discussion during this meeting include, but are not limited to:

- System architecture
- System security design
- System data flows
- System limits

2.3.2.11.   Adhere to all procedural requirements of this Manual.

2.4. Registration Process. Generally, registration is accomplished through use of the EAC registration form. After the EAC has received a registration form and other required registration documents, the agency reviews the information for completeness before approval.

2.4.1. <u>Application Process</u>. To become a registered voting system Manufacturer, interested parties must apply by submitting a Manufacturer Registration Application form (Appendix A). This form will be used as the means for the Manufacturer to provide the information and agree to the responsibilities required in Section 2.3, above.

     2.4.1.1. *Application Form*. In order for the EAC to accept and process the registration form, the applicant must adhere to the following requirements:

          2.4.1.1.1.   All fields must be completed by the Manufacturer.

          2.4.1.1.2.   All required attachments prescribed by the form and this Manual must be identified, completed, and forwarded in a timely manner to the EAC (e.g., Manufacturer's quality control and system change policies).

          2.4.1.1.3.   The application form must be affixed with the hand written signature (including a digital representation of the handwritten signature) of the authorized representative of the vendor.

     2.4.1.2. *Availability and Use of the Form*. The Manufacturer Registration Application Form may be accessed through the EAC's website at <u>www.eac.gov</u>. Instructions for completing and submitting the form are included on the website along with contact information regarding questions about the form or the application process.

2.4.2. <u>EAC Review Process</u>. The EAC will review all registration applications.

     2.4.2.1. After the application form and required attachments have been submitted, the applicant will receive an acknowledgment that the EAC has received the submission and that the application will be processed.

     2.4.2.2. If an incomplete form is submitted, or an attachment is not provided, the EAC will notify the Manufacturer and request the omitted information. Registration applications will not be processed until they are deemed complete.

     2.4.2.3. Upon receipt of the completed registration form and accompanying documentation, the EAC will review the information for sufficiency. If the EAC

requires clarification or additional information, the EAC will contact the Manufacturer and request the needed information.

2.4.2.4. Upon the determination that an application has been satisfactorily completed, the EAC will notify the Manufacturer that it has been registered.

2.5. Registered Manufacturers. After a Manufacturer has received notice that it is registered, it will receive an identification code and will be eligible to participate in the voluntary voting system Certification Program.

2.5.1. Manufacturer Code. Registered Manufacturers will be issued a unique, three-letter identification code. This code will be used to identify the Manufacturer and its products.

2.5.2. Continuing Responsibility to Report. Registered Manufacturers are required to keep all registration information up to date. Manufacturers must submit a revised application form to the EAC within 30 days of any changes to the information required on the application form. Manufacturers will remain registered participants in the program during this update process.

2.5.3. Program Information Updates. Registered Manufacturers will automatically be provided timely information relevant to the Certification Program.

2.5.4. Website Postings. The EAC will add the Manufacturer to the EAC's listing of registered voting system Manufacturers publicly available at www.eac.gov.

2.6. Suspension of Registration. Manufacturers are required to establish policies and operate within the EAC Certification Program consistent with the procedural requirements presented in this Manual. When Manufacturers violate the certification program's requirements by engaging in management activities inconsistent with this Manual or failing to cooperate with the EAC, their registration may be suspended until such time as the issue is remedied.

2.6.1   Procedures. When a Manufacturer's activities violate the procedural requirements of this Manual, the Manufacturer will be notified of the violations, given an opportunity to respond, and provided with the suggested steps to bring itself into compliance.

2.6.1.1. *Notice*. Manufacturers shall be provided written notice that they have taken action inconsistent with or acted in violation of the requirements of this Manual. The notice will state the violations and the specific steps required to cure them. The notice will also provide Manufacturers with 30 days (or a greater period of time as stated by the Program Director) to (1) respond to the notice and/or (2) cure the defect.

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2.6.1.2. *Manufacturer Action*. The Manufacturer is required to either respond in a timely manner to the notice (demonstrating it was not in violation of program requirements) or cure the violations identified in a timely manner. The steps required to cure a violation will include addressing the direct violation and the underlying root cause. In any case, the Manufacturer's action must be approved by the Program Director to prevent suspension.

2.6.1.3. *Non-Compliance*. If the Manufacturer fails to respond in a timely manner, is unable to provide a cure or response that is acceptable to the Program Director, or otherwise refuses to cooperate, the Program Director may suspend the Manufacturer's registration. The Program Director shall issue a notice of his or her intent to suspend and provide the Manufacturer five (5) business days to object to the action and submit information in support of the objection.

2.6.1.4. *Suspension*. After notice and opportunity to be heard (consistent with the above), the Program Director may suspend a Manufacturer's registration. The suspension shall be provided in writing and must inform the Manufacturer of the steps available to remedy the violations and lift the suspension.

2.6.2. <u>Effect of Suspension</u>. A suspended Manufacturer may not submit a voting system for certification under this program. This prohibition includes a ban on the submission of modifications and changes to certified system. A suspension shall remain in effect until lifted. Suspended Manufacturers will have their registration status reflected on the EAC website. Manufacturers have the right to remedy a non-compliance issue at any time and lift a suspension consistent with EAC guidance. Failure of a Manufacturer to follow the requirements of this section may also result in Decertification of voting systems consistent with Chapter 7 of this Manual.

3. When Voting Systems Must Be Submitted for Testing and Certification

3.1. **Overview**. An EAC certification signifies that a voting system has been successfully tested against an identified voting system standard adopted by the EAC. Only the EAC can issue a Federal certification. Ultimately, systems must be submitted for testing and certification under this program to receive this certification. Systems will usually be submitted when (1) they are new to the marketplace, (2) they have never before received an EAC certification, (3) they are modified, or (4) the Manufacturer wishes to test a previously certified system to a different (newer) standard. This chapter discusses the submission of de minimis change orders, which may not require additional testing and certification. Additionally, this chapter outlines provisional, pre-election emergency modifications, which provide for pre-election, emergency waivers.

3.2. **EAC Certification.** Certification is the process by which the EAC, through testing and evaluation conducted by an accredited Voting System Test Laboratory, validates that a voting system meets the requirements set forth in existing voting system testing standards (VVSG), and performs according to the Manufacturer's specifications for the system. An EAC certification may be issued only by the EAC in accordance with the procedures presented in this Manual. Certifications issued by other bodies (e.g., the National Association of State Election Directors and State certification programs) are not EAC certifications.

3.2.1.Types of Voting Systems Certified. The EAC Certification Program is designed to test and certify electromechanical and electronic voting systems. Ultimately, the determination of whether a voting system may be submitted for testing and certification under this program is solely at the discretion of the EAC.

3.2.2.Voting System Standards. Voting systems certified under this program are tested to a set of voluntary standards providing requirements that voting systems must meet to receive a Federal certification. These standards are referred to as Voluntary Voting System Guidelines (VVSG).

3.2.2.1. *Versions—Availability and Identification*. Voluntary Voting System Guidelines are published by the EAC and are available on the EAC's website (www.eac.gov). The standards will be routinely updated and versions will be identified by version number and/or release date.

3.2.2.2. *Versions—Basis for Certification*. The EAC will promulgate which version or versions of the standards it will accept as the basis for testing and certification. This effort may be accomplished through the setting of an implementation date for a particular version's applicability, the setting of a date by which testing to a particular version is mandatory or the setting of date by which the EAC will no longer test to a particular standard. **The EAC will certify only those voting**

systems tested to standards that the EAC has identified as valid for certification.

   3.2.2.2.1.   End date. When a version's status as the basis of an EAC certification is set to expire on a certain date, the submission of the system's test report will be the controlling event (see Chapter 4). This requirement means the system's test report must be received by the EAC on or before the expiration date to be certified to the terminating standard.

   3.2.2.2.2.   Start date. When a version's status as the basis of an EAC certification is set to begin on a certain date, the submission of the system's application for certification will be the controlling event (see Chapter 4). This requirement means the system's application, requesting certification to the new standard, will not be accepted by the EAC until the start date.

3.2.2.3. *Version—Manufacturer's Option*. When the EAC has authorized the option of certification to more than one version of the standards, the Manufacturer must choose which version it wishes to have its voting system tested against. The voting system will then be certified to that version of the standards upon successful completion of testing. Manufacturers must ensure all applications for certification identify a particular version of the standards.

3.2.2.4. *Emerging Technologies*. If a voting system or component thereof is eligible for a certification under this program (see Section 3.2.1.) 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 described below 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. Information on emerging technologies will be forwarded to the EAC's Technical Guidelines Development Committee (TGDC).

   3.2.2.4.1.   TTA Meeting.

   3.2.2.4.1.1. The manufacturer should contact the Certification Division as early as possible in their design and development process to have a general discussion regarding new or emerging technology in any voting system product.

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3.2.2.4.1.2. A formal request for a TTA Meeting should be: a) clearly identified as such and b) submitted via email or other secure means to the Director of the EAC Testing and Certification Division. The EAC expects that the submission will be as detailed as design and development allow, but should include the following items:

• Description of the product, highlighting elements involving new technologies testable requirements and other testing protocol issues. This description should include, at a minimum:
  o General product description
  o Engineering drawing(s)
  o Product composition/key components/materials
• Device specifications
• Analysis of potential failure modes and threat model/risk analysis
• Outline of the proposed conditions of use
• Summary of instructions for use of the product (voter and poll worker/election official)
• Relevant performance information on the product, especially if routinely used in other industries. This information may include:
  o Published and/or unpublished data
  o Summary of test data
  o Summary of prior user experience.

3.2.2.4.1.3. Prior to the formal TTA Meeting, the manufacturer should arrange for a preliminary meeting (videoconference or teleconference) to review the submitted information and discuss any additional questions that may arise prior to the actual formal TTA Meeting. The manufacturer may then submit any additional information as required, and finalize the date and time for formal TTA Meeting with the EAC and VSTL. Because of logistics and budgetary considerations for all parties, the location of the meeting (EAC, VSTL or manufacturer location) will be mutually agreed upon. Meeting plans should generally be finalized within 30 days of the preliminary meeting.

3.2.2.4.1.4. TTA Meetings should generally be face-to-face, or by videoconference, and should be scheduled for approximately 2-4 hours or longer depending on the complexity of the issues to be discussed. The EAC and VSTL staff may raise any questions for the manufacturer about the product, but should be focused on the key issues of the products test plan development and testing that will ultimately lead to the Technology Testing Agreement. The Director of the Certification Division will determine which EAC staff should attend the meeting, but will generally include: the EAC Project

Manager and any or all Technical Reviewers with interest or expertise in specific areas under discussion.

3.2.2.4.2.   Post TTA Meeting Activities

3.2.2.4.2.1. At the end of the meeting, the EAC Project Manager for the voting system will summarize the agreement(s) or explain any reasons for tabling the agreement(s), including the date of any follow-on meeting, if appropriate. A record of attendees and minutes of the meeting shall be kept by both a designated EAC staff member and manufacturer representative. EAC and the manufacturer should exchange their respective meeting minutes for review following the meeting and share the minutes with the VSTL. The minutes shall be in sufficient detail to reflect the substance of the issues discussed at the meeting and the final agreement.

3.2.2.4.2.2. The EAC Project Manager will prepare a memorandum outlining the TTA. Within ten (10) business days of the meeting, a draft of the memorandum should be circulated for comment among all TTA Meeting participants. Comments shall be returned to EAC in 5 business days. The final memorandum shall be signed by the Director and conveyed to the applicant and VSTL within 5 business days of the receipt of final comments.

3.2.3. <u>Significance of an EAC Certification</u>. An EAC certification is an official recognition that a voting system (in a specific configuration or configurations) has been tested by a VSTL to be in conformance with an identified set of Federal voting standards. An EAC certification is **not**:

3.2.3.1. An official endorsement of a Manufacturer, voting system, or any of the system's components.

3.2.3.2. A Federal warranty of the voting system or any of its components.

3.2.3.3. A determination that a voting system, when fielded, will be operated in a manner that meets all HAVA requirements.

3.2.3.4. A substitute for State or local certification and testing.

3.2.3.5. A determination that any particular component of a certified system is itself certified for use outside the certified configuration.

3.3. When Certification Is Required Under the Program. To obtain or maintain an EAC certification, Manufacturers must submit a voting system for testing and certification under this program. Such action is usually required for (1) new systems not previously tested to any standard; (2) existing systems not previously certified by the EAC; (3) previously certified systems that have been modified; (4) systems or technology specifically identified for retesting by the EAC; or (5) previously certified systems that the Manufacturer seeks to upgrade to a higher standard (e.g., more recent version of the VVSG).

   3.3.1. <u>New System Certification</u>. For purposes of this Manual, new systems are defined as voting systems that have not been previously tested to applicable Federal standards. New voting systems must be fully tested and submitted to the EAC according to the requirements of Chapter 4 of this Manual.

   3.3.2. <u>System Not Previously EAC Certified</u>. This term describes any voting system not previously certified by the EAC, including systems previously tested and qualified by NASED or systems previously tested and denied certification by the EAC. Such systems must be fully tested and submitted to the EAC according to the requirements of Chapter 4 of this Manual.

   3.3.3. <u>Modification</u>. A modification is any change to *a previously EAC-certified voting system*'s hardware, software, or firmware that is not a de minimis change. Any modification to a voting system will require testing and review by the EAC according to the requirements of Chapter 4 of this Manual.

   3.3.4. <u>EAC Identified Systems</u>. Manufacturers may be required to submit systems previously certified by the EAC for retesting. This may occur when the EAC determines that the original tests conducted on the voting system are now insufficient to demonstrate compliance with Federal standards in light of newly discovered threats or information.

3.4. Changes to Voting Systems in the EAC Certification Program – Change Order. A change order does not apply to a system under test; any changes made to a system under test are considered part of the test campaign. A single change order can be applied to multiple systems as long as a VSTL reviews and approves the change order for each EAC certified system.

   3.4.1. <u>Change Order</u>. A change order is a change to a *previously EAC certified* voting system's hardware, documentation, or data that is minor in nature and effect. Such changes, however, require VSTL review and endorsement as well as EAC approval. Any proposed change not accepted as a de minimis change is a modification and shall be submitted for testing and review consistent with the requirements of this Manual.

   3.4.2. <u>De Minimis Change – Defined.</u> A de minimis change is a change to a certified voting system's hardware, software, TDP, or data, the nature of which will not materially alter the

system's reliability, functionality, capability, or operation. Under no circumstance shall a change be considered de minimis if it has reasonable and identifiable potential to impact the system's performance and compliance with the applicable voting Standard.

3.4.3. <u>De Minimis Change – Procedure.</u> Manufacturers who wish to implement a proposed de minimis change must submit it for VSTL review and endorsement and EAC approval. A proposed de minimis change may not be implemented as such until it has been approved in writing by the EAC.

    3.4.3.1. *VSTL Review.* Manufacturers must submit any proposed de minimis change to a VSTL and the EAC for review and endorsement. The Manufacturer will provide the VSTL: (1) a detailed description of the change; (2) a description of the facts giving rise to or necessitating the change; (3) the basis for its determination that the change will not alter the system's reliability, functionality, or operation; (4) upon request of the VSTL, a sample voting system at issue or any relevant technical information needed to make the determination; (5) document any potential impact to election officials currently using the system and any required notifications to those officials; (6) a description of how this change will impact any relevant system documentation;; and (7) any other information the EAC or VSTL needs to make a determination. The VSTL will review the proposed de minimis change and make an independent determination as to whether the change meets the definition of de minimis change or requires the voting system to undergo additional testing as a system modification.   If the VSTL determines that a de minimis change is appropriate, it shall endorse the proposed change as a de minimis change. If the VSTL determines that modification testing and certification should be performed, it shall reclassify the proposed change as a modification. Endorsed de minimis changes shall be forwarded to the Voting System's Project Manager for final approval. Rejected changes shall be returned to the Manufacturer for resubmission as system modifications.

    3.4.3.2. *VSTL Endorsed Changes.* The VSTL shall forward to the EAC any change it has endorsed as de minimis. The VSTL shall forward its endorsement in a package that includes:

        3.4.3.2.1.   The Manufacturer's initial description of the de minimis change, a narrative of facts giving rise to, or necessitating, the change, and the determination that the change will not alter the system's reliability, functionality, or operation.

        3.4.3.2.2.   The written determination of the VSTL's endorsement of the de minimis change. The endorsement document must explain why the VSTL, in its engineering judgment, determined that the proposed de

minimis change met the definition in this section and otherwise does not require additional testing and certification.

3.4.3.3. *EAC Action.* The EAC will review all proposed de minimis changes endorsed by a VSTL. The EAC has sole authority to determine whether any VSTL endorsed change constitutes a de minimis change under this section. The EAC will inform the Manufacturer and VSTL of its determination in writing.

3.4.3.3.1.   If the EAC approves the change as a de minimis change, it shall provide written notice to the Manufacturer and VSTL. The EAC will maintain copies of all approved de minimis changes and otherwise track such changes.

3.4.3.3.2.   If the EAC determines that a proposed de minimis change cannot be approved, it will inform the VSTL and Manufacturer of its decision. The proposed change will be considered a modification and require testing and certification consistent with this Manual. De minimis changes cannot be made to voting systems currently undergoing testing; these changes are merely changes to an uncertified system and may require an Application update.

3.5. Changes to Voting Systems in the EAC Certification Program - Modification.

3.5.1. <u>Modification – Defined.</u> A modification is any change to *a previously EAC-certified voting system*'s hardware, software, or firmware that is not a de minimis change. Any modification to a voting system will require testing and review by the EAC according to the requirements of Chapter 4 of this Manual.

3.5.2. <u>Modification – Procedure.</u> Once a VSTL has submitted a modification application, a Test Plan shall be created and submitted to the EAC for the Test Plan review process. Any modification shall be subject to full testing of the modifications (delta -testing) and those systems or subsystems altered or impacted by the modification (regression testing). The system will also be subject to system integration testing to ensure overall functionality. Once testing is completed, a Test Report will be generated by the VSTL and submitted to the EAC for approval.

3.5.3. <u>EAC Approval</u>. If the EAC approves the change as a modification, it shall provide written notice to the Manufacturer and VSTL and generate a Certificate of Conformance. The EAC will maintain copies of all approved modifications and otherwise track such changes

3.5.4. <u>EAC Denial</u>. If the EAC determines that a modification cannot be approved, it will inform the VSTL and Manufacturer of its decision. The Denial of Certification appeals process would govern this testing campaign.

3.5.5. <u>Modification Change – Effect of EAC Approval</u>. EAC approval of a modification permits the Manufacturer to implement the proposed change (as identified, endorsed, and approved). Fielding a change not approved by the EAC is a basis for system Decertification.

3.6. Provisional, Pre-Election Emergency Modification. To address extraordinary pre-election emergency situations, the EAC has developed a special provisional modification process. This process is to be used **only** for the emergency situations indicated and **only** when there is a clear and compelling need for temporary relief until the regular certification process can be followed.

3.6.1. <u>Purpose</u>. The purpose of this section is to allow for a mechanism within the EAC Certification Program for Manufacturers to modify EAC-certified voting systems in emergency situations immediately before an election. This situation arises when a modification to a voting system is required and an election deadline is imminent, preventing the completion of the full certification process (and State and/or local testing process) prior to Election Day. In such situations, the EAC may issue a waiver to the Manufacturer authorizing it to make the modification without submission for modification testing and certification.

3.6.2. <u>General Requirements</u>. A request for an emergency modification waiver may be made by a Manufacturer only *in conjunction* with the State election official whose jurisdiction(s) would be adversely affected if the requested modification were not implemented before Election Day. Requests must be submitted at least 5 calendar days before an election. Only systems previously certified are eligible for such a waiver. To receive a waiver, a Manufacturer must demonstrate the following:

   3.6.2.1. The modification is functionally or legally required; that is, the system cannot be fielded in an election without the change.

   3.6.2.2. The voting system requiring modification is needed by State or local election officials to conduct a pending Federal election.

   3.6.2.3. The voting system to be modified has previously been certified by the EAC.

   3.6.2.4. The modification cannot be tested by a VSTL and submitted to the EAC for certification, consistent with the procedural requirements of this Manual, at least 30 days before the pending Federal election.

3.6.2.5. Relevant State law requires Federal certification of the requested modification.

3.6.2.6. The Manufacturer has taken steps to ensure the modification will properly function as designed, is suitably integrated with the system, and otherwise will not negatively affect system reliability, functionality, or accuracy.

3.6.2.7. The Manufacturer (through a VSTL) has completed as much of the evaluation testing as possible for the modification and has provided the results of such testing to the EAC.

3.6.2.8. The emergency modification is required and otherwise supported by the Chief State Election Official seeking to field the voting system in an impending Federal election.

3.6.3. <u>Request for Waiver</u>. A Manufacturer's request for waiver shall be made in writing to the Decision Authority and shall include the following elements:

3.6.3.1. A signed statement providing sufficient description, background, information, documentation, and other evidence necessary to demonstrate that the request for a waiver meets each of the eight requirements stated in Section 3.6.2 above.

3.6.3.2. A signed statement from the Chief State Election Official requiring the emergency modification. This signed statement shall identify the pending election creating the emergency situation and attest that (1) the modification is required to field the system, (2) State law (citation) requires EAC action to field the system in an election, and (3) normal timelines required under the EAC Certification Program cannot be met.

3.6.3.3. A signed statement from a VSTL stating there is insufficient time to perform necessary testing and complete the certification process. The statement shall also state what testing the VSTL has performed on the modification to date, provide the results of such tests, and state the schedule for the completion of testing.

3.6.3.4. A detailed description of the modification, the need for the modification, how it was developed, how it addresses the need for which it was designed, its impact on the voting system, and how the modification will be fielded or implemented in a timely manner consistent with the Manufacturer's quality control program.

3.6.3.5. All documentation of tests performed on the modification by the Manufacturer, a laboratory, or other third party.

3.6.3.6. A stated agreement signed by the Manufacturer's representative agreeing to take the following action:

3.6.3.6.1.   Submit for testing and certification, consistent with Chapter 4 of this Manual, any voting system receiving a waiver under this section that has not already been submitted. This action shall be taken immediately.

3.6.3.6.2.   Abstain from representing the modified system as EAC certified. The modified system has not been certified; rather, the originally certified system has received a waiver providing the Manufacturer a temporary exemption allowing its modification.

3.6.3.6.3.   Submit a report to the EAC regarding the performance of the modified voting system within 60 days of the Federal election that served as the basis for the waiver. This report shall (at a minimum) identify and describe any (1) performance failures, (2) technical failures, (3) security failures, and/or (4) accuracy problems.

3.6.4. <u>EAC Review</u>. The EAC will review all waiver requests submitted in a timely manner and make determinations regarding the requests. Incomplete requests will be returned for resubmission with a written notification regarding its deficiencies.

3.6.5. <u>Letter of Approval</u>. If the EAC approves the modification waiver, the Decision Authority shall issue a letter granting the temporary waiver within five (5) business days of receiving a complete request.

3.6.6. <u>Effect of Grant of Waiver</u>. An EAC grant of waiver for an emergency modification is not an EAC certification of the modification. Waivers under this program grant Manufacturers leave to only temporarily amend previously certified systems without testing and certification for the specific election noted in the request. Without such a waiver, such action would ordinarily result in Decertification of the modified system (See Chapter 7). Systems receiving a waiver shall satisfy any State requirement that a system be nationally or federally certified. In addition—

3.6.6.1. All waivers are temporary and expire 60 days after the Federal Election for which the system was modified and the waiver granted.

3.6.6.2. Any system granted a waiver must be submitted for testing and certification. This shall be accomplished as soon as possible.

3.6.6.3. The grant of a waiver does not predispose the modified system to being granted a certification.

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3.6.7.<u>Denial of Request for Waiver</u>. A request for waiver may be denied by the EAC if the request does not meet the requirements noted above, fails to follow the procedure established by this section, or otherwise fails to sufficiently support a conclusion that the modification at issue is needed, will function properly, and is in the public interest. A denial of a request for an emergency modification by the EAC shall be final and not subject to appeal. Manufacturers may submit for certification, consistent with Chapter 4 of this Manual, modifications for which emergency waivers were denied.

3.6.8.<u>Publication Notice of Waiver</u>. The EAC will post relevant information relating to the temporary grant of an emergency waiver on its website. This information will be posted upon grant of the waiver and removed upon the waiver's expiration. This posting will include information concerning the limited nature and effect of the waiver.

4. Certification Testing and Technical Review

4.1. Overview. This chapter discusses the procedural requirements for submitting a voting system to the EAC for testing and review. The testing and review process requires an application, employment of an EAC-accredited testing laboratory, and technical analysis of the laboratory test report by the EAC. The result of this process is an Initial Decision on Certification by the Decision Authority.

4.2. Policy. Generally, to receive an initial determination on an EAC certification for a voting system, a registered Manufacturer must have (1) submitted an EAC-approved application for certification, (2) had a VSTL submit an EAC-approved test plan, (3) had a VSTL test a voting system to applicable voting system standards, (4) had a VSTL submit a test report to the EAC for technical review and approval, and (5) received EAC approval of the report in an Initial Decision on Certification.

4.3. Certification Application. The first step in submitting a voting system for certification is submission of an application package. The nature of the submission will determine what information is required from the manufacturer. Manufacturers must identify the nature of their submission by selecting one of two submission types:

- **New system**. A new system is a voting system not previously certified by the EAC. The application package must contain an application form, Summative Usability Testing Report and the Test Readiness Review.

- **Modification**. A modification is a change to a system previously certified by the EAC. A modification does not include de minimis changes to the system. The application package must contain an application form, and updated Summative Usability Testing Report (if modification impacts usability).

Manufacturers **must** use the appropriate application form for submitting a voting system for testing. Any submission that is not on the EAC provided form will be rejected. In addition, a manufacturer must submit a complete certification application package and receive notification from the EAC that it is accepted prior to conducting any certification testing. Any testing occurring after the execution of a contract or agreement for certification testing (not including the Test Readiness Review) between a VSTL and a registered manufacturer is presumed to be certification testing.

4.3.1. <u>Information on Application Form- New System</u>. The application provides the EAC with essential information at the outset of the certification process. This information includes:

4.3.1.1. *Manufacturer Information*. Identification of the Manufacturer (name and three-letter identification code).

4.3.1.2. *Selection of Accredited Laboratory*. Selection and identification of the VSTL that will perform voting system testing and other prescribed laboratory action consistent with the requirements of this Manual. Once selected, a Manufacturer may NOT replace the selected VSTL without the express written consent of the Program Director. Such permission is granted solely at the discretion of the Program Director and only upon demonstration of good cause.

4.3.1.3. *Voting System Standards Information*. Identification of the VVSG, including the document's date and version number, to which the Manufacturer wishes to have the identified voting system tested and certified.

4.3.1.4. *Identification of the Voting System/system overview*. Manufacturers must identify the system submitted for testing by providing its name and version number. If the system submitted was previously fielded, but the Manufacturer wishes to change its name or version number after receipt of EAC certification, it must provide identification information on both the past name or names and the new, proposed name.

    4.3.1.4.1.   Separate identification of each device that is part of the voting system. This includes all COTS components. A keyboard, mouse, accessibility peripheral or printer connected to a programmed voting device, as well as any optical drive, hard drive or similar component installed within it, are considered components of the voting device, not separate devices.

4.3.1.5. *Voting variations.* Manufactures must identify the voting variations supported by the voting system. These variations are described in Volume 1 Section 2.1.7.2 of the 2005 VVSG.

4.3.1.6. *Languages support.* The electronic display or printed document on which the user views the ballot must be capable of rendering an image of the ballot in any of the languages required by the Voting Rights Act of 1965, as amended.

4.3.1.7. *List of accessibility capabilities*. Manufacturers must provide a detailed explanation of the accessibility capabilities present in their system

4.3.1.8. Device capacities and limits.

4.3.1.9. *Coding Standard*. Each voting system component must have a single coding convention selected for every programming language used in the voting system. This information must include:
- System Component
- Language Used
- Specified Coding Convention

- Source of Coding Convention

4.3.1.10.   *Functional Diagrams.* Diagram(s) that display all components and how the components relate and interact in each configuration.

4.3.1.11.   *Certification Number.* Manufacturers must provide their desired EAC certification number.

4.3.1.12.   *Test Readiness Review.* Manufacturers must submit confirmation that a test readiness review has been completed by a VSTL per Section 4.5 of this manual.

4.3.1.13.   *Date Submitted.* Manufacturers must note the date the application was submitted for EAC approval.

4.3.1.14.   *Signature.* The Manufacturer must affix the signature of the authorized management representative.

4.3.2. <u>Information on Application Form- Modification</u>. If submitting an application for modification, the application must contain:

4.3.2.1. *Manufacturer Information.* Identification of the Manufacturer (name and three-letter identification code).

4.3.2.2. *Selection of Accredited Laboratory.* Selection and identification of the VSTL that will perform voting system testing and other prescribed laboratory action consistent with the requirements of this Manual. Once selected, a Manufacturer may NOT replace the selected VSTL without the express written consent of the Program Director. Such permission is granted solely at the discretion of the Program Director and only upon demonstration of good cause.

4.3.2.3. *Voting System Standards Information.* Identification of the VVSG, including the document's date and version number, to which the Manufacturer wishes to have the identified voting system tested and certified.

4.3.2.4. Manufacturers must provide a detailed overview of the modification containing:

    4.3.2.4.1.   Modified system components

    4.3.2.4.2.   Component version numbers

    4.3.2.4.3.   Detailed description of the change(s)

    4.3.2.4.4.   Listing of all TDP documents impacted by the change

4.3.2.4.5.   Usability impact

4.3.2.4.6.   Functional diagram(s) that display all components and how the components relate and interact in each configuration if impacted by modification.

4.3.2.5. *Certification Number.* Manufacturers must provide their desired EAC certification number.

4.3.2.6. *Date Submitted*. Manufacturers must note the date the application was submitted for EAC approval.

4.3.2.7. *Signature*. The Manufacturer must affix the signature of the authorized management representative.

4.3.3. <u>Submission of the Application Package</u>. Manufacturers must submit a copy of the application form described above and the required additional information. Manufacturers must submit the required information in a concise and efficient manner.

4.3.3.1. *Submission*. Applications and accompanying documentation must be submitted in Adobe PDF, Microsoft Word, or other electronic format as prescribed by the Program Director. Applications must be submitted via the VRT.

4.4. <u>EAC Review</u>. Upon receipt of a Manufacturer's application package, the EAC will review the submission for completeness and accuracy. The manufacturer will be notified of acceptance or rejection of the application package within five business days of the EAC's receipt of the application. If the application package is incomplete or inaccurate, the EAC will return it to the Manufacturer with instructions for resubmission. If the form submitted is acceptable, the Manufacturer will be notified and provided a unique application number.

4.5. **Test Readiness Review.** 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. The TRR determines if the submitted voting system and documentation are ready to enter certification testing. The TRR shall be completed by the VSTL and the subsequent Test Readiness Acknowledgement must be received by the EAC prior to the initiation of any certification testing. To assess the readiness of a voting system for certification testing, the VSTL shall review:

- **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. System

Component information should match the Manufacturer's application submitted to the EAC. All components submitted for testing must be equivalent to the final production model of the voting system in fit, form and function. 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 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.

4.5.1. <u>Test Readiness Notification</u>. Upon completion of the TRR, the VSTL shall submit a signed statement to the EAC confirming that the voting system completed the TRR and the VSTL determined that the system is ready for certification testing to applicable Voluntary Voting System Guidelines.

4.5.2. <u>Test Readiness Acknowledgement</u>. Upon receipt of the Test Readiness Notification from the VSTL, the EAC shall issue an acknowledgement in writing stating that the VSTL and manufacturer may commence certification testing. This acknowledgement will be issued within 3 business days of receipt of the Notification. Systems not passing the Test Readiness Review will be remanded to the manufacturer for additional work as noted in the Test Readiness Notification.

4.6. Test Plan. The Manufacturer shall authorize the VSTL identified in its application to submit a test plan directly to the EAC. The test plan shall document the strategy and plan for testing each section of the applicable version of the VVSG and is to be used as a key tool to manage the test campaign and to verify that a voting system or component meets all VVSG and program defined requirements. The test plan shall be written with completeness and clarity that will allow all constituents to understand what testing will be conducted, to assess each group of VVSG requirements, and to assure the test plan will remain a living document throughout the life of the test campaign. The objective is to address each section of the VVSG in detail, and to clearly and succinctly describe the strategy and/or approach for testing each section.

4.6.1. <u>Development</u>. An accredited laboratory will develop test plans that use appropriate test protocols, standards, or test suites developed by the laboratory. Laboratories must use all applicable protocols, standards, or test suites issued by the EAC. Care should be taken to clearly communicate the scope and requirements of testing, the test strategies, and the

resource needs. This information identifies the purpose and boundaries of the test campaign:

- What will be tested,
- How it will be tested,
- What resources are needed for testing.

Because future events in any test campaign cannot be 100% predicted and controlled, the initial submission of the test plan is viewed as a baseline that enables periodic updates as events cause the plan to change. The VSTL is expected to update specific sections of the plan and resubmit as necessary to enable all stakeholders (Manufacturer, EAC, the public and states or jurisdictions) to understand and use the test plan. As the Target of Evaluation changes via Change Orders, component changes, or COTS products change, the test plan shall be updated since these changes may significantly impact the testing. These test plan changes might also alter the original schedule and may require an updated schedule be submitted with the revised test plan. The following are examples of instances that would likely require updating the test plan:

- Changes to the manufacturer's application for testing.
- Engineering Changes that alter the scope or function of the voting system.
- Information discovered during testing that change the strategy on how best to test the voting system.

For the test plan to be an effective, living document it needs to be clear and complete so stakeholders (VSTL project manager, VSTL testers, third party lab personnel, manufacturer, EAC, states and jurisdictions) can review the plan and understand what needs to be done to complete the project. In order to accomplish these goals the following general topics, which are further defined in the test plan outline later in the document, shall be included in the test plan.

- A detailed, comprehensive knowledge of the scope of evaluation

  o That each requirement or set of requirements is going to be evaluated for compliance
  o That all features, interfaces and characteristics of the individual devices and the system are evaluated to applicable standards

- Titles of test lab personnel who will be responsible for each aspect of the test campaign
- Detailed project schedule including what the critical path is for timely project completion

- What test methods will be used to evaluate each section of the standards (more than one test method may be used for a section)

  o What is tested in document review
  o What is tested in source code review
  o What is operationally tested
  o What is tested at a component/subsystem level
  o What is tested at a system only level

4.6.2. <u>Required Testing</u>. Test plans shall be developed to ensure a voting system is functional and meets all requirements of the applicable, approved voting system standards. The highest level of care and vigilance is required to ensure comprehensive test plans are created. A test plan should ensure the voting system meets all applicable standards and test results, and other factual evidence of the testing, are clearly documented. System testing must meet all of the requirements of the VVSG. Generally, full testing will be required of any voting system applying for certification, regardless of previous certification history.

4.6.2.1. *New System*. A new system shall be subject to full testing of all hardware and software according to applicable voting system standards.

4.6.2.2. *System Not Previously EAC Certified*. A system not previously certified by the EAC shall be fully tested as a new system.

4.6.2.3. *Modification*. A modification to a previously EAC-certified voting system shall be tested in a manner necessary to ensure all changes meet applicable voting system standards and the modified system (as a whole) will function properly and reliably. Any system submitted for modification shall be subject to full testing of the modifications (delta-testing) and those systems or subsystems altered or impacted by the modification (regression testing). The system will also be subject to system integration testing to ensure overall functionality. The modification will be tested to the version or versions of the VVSG currently accepted for testing and certification by the EAC. This requirement, however, does not mean that the full system must be tested to such standards. If the system has been previously certified to a VVSG version deemed acceptable by the EAC (see Section 3.2.2.2), it may retain that level of certification with only the modification being tested to the current version(s).

4.6.2.3.1. *Modification Test Plans*. Test Plans submitted for modifications to previously EAC certified voting systems should be brief and structured to minimize test plan development and review, while enabling the EAC to maintain solid control of the certification process. The test plan shall *concisely* document the strategy and plan for testing those sections of the VVSG applicable to the modification

or modifications submitted. The test plan shall be written with clarity that will allow all constituents to understand what testing will be conducted, to verify compliance to the VVSG standard, and to assure that the test plan will remain a living document throughout the life of the test campaign for the modification.

Care should be taken to clearly communicate the scope and requirements of testing, the test strategies, and the resource needs. In order to accomplish these goals the following general topics shall be included in all modification test plans.

- Complete definition of the baseline certified system.
- Detailed description of all the engineering changes and/or modifications to the certified system and why the modification was implemented.
- Cite the standard (VVSG) to which the original system was certified.
- Cite the standard (VVSG) to which the modified system is to be tested.
- Detailed description of which specific components, including version, are tested to which standard.
- An initial assessment of the impact the changes have on the current system and any previous certification.
- An initial assessment of the impact the changes have on TDP documents.
- A table or list indicating how each of the existing NOCs/RFIs will be addressed and why this plan is valid for this test campaign.
- Description of what will be tested (regression) to establish assurance that the change(s) have no adverse impact on the compliance, integrity, or the performance of the equipment.
- Description of what will be tested (regression) to establish assurance that the change(s) create no inconsistencies with the TDP and further are correctly documented and reflected in the TDP.
- A summary of the test methods that will be used to validate compliance. This summary may include existing, modified or new test methods, test cases or test sequences.
- Titles of test lab personnel who will be responsible for each aspect of the test campaign.
- Detailed project schedule including what the critical path is for timely project completion.

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4.6.2.4. *EAC Identified Systems*. Previously certified systems identified for retesting by the EAC (see Section 3.4.4) shall be tested as directed by the Program Director (after consultation with technical experts as necessary).

4.6.2.5. *Certification Upgrade*. A previously certified system submitted for testing to a new voting system standard (without modification) shall be tested in a manner necessary to ensure that the system meets all requirements of the new standard. The VSTL shall create a test plan that identifies the differences between the new and old standards and, based upon the differences, fully retest all hardware and software components affected.

4.6.3. <u>Format</u>. Test labs shall issue test plans consistent with the format outlined in Appendix D of this document and any applicable EAC guidance.

4.6.4. <u>EAC Approval</u>. All test plans are subject to EAC approval. No test report will be accepted for technical review unless the test plan on which it is based has been approved by EAC's Program Director.

4.6.4.1. *Review*. All test plans must be reviewed for adequacy by the Program Director. For each submission, the Program Director will determine whether the test plan is acceptable or unacceptable. Unacceptable plans will be returned to the VSTL for further action. Acceptable plans will be approved and appropriate notifications will be made. Although Manufacturers may direct test labs to begin testing before approval of a test plan, the Manufacturer bears the full risk that the test plan (and thus any tests preformed) may be deemed unacceptable.

4.6.4.2. *Unaccepted Plans*. If a test plan is not accepted, the Program Director will return the submission to the Manufacturer's identified VSTL for additional action. Notice of unacceptability will be provided in writing to the laboratory and include a description of the deficiencies identified and steps required to remedy the test plan. A copy of this notice will also be sent to the Manufacturer. Questions concerning the notice shall be forwarded to the Program Director in writing. Plans that have not been accepted may be resubmitted for review after remedial action is taken.

4.6.4.3. *Effect of Approval*. Approval of a test plan is required before a test report may be filed. EAC approval of the Test Plan does not mean the EAC accepts responsibility that efforts described in the Test Plan will produce full and adequate testing to certify the system. The following discuss the meaning of EAC's approval of the Test Plan:
- Approval simply signifies that the tests proposed, if performed properly, appear to be sufficient to fully test the system. A final determination of the sufficiency of the testing is a global evaluation based on the test plan,

> test cases, and test report reviews, as well as the EAC's Quality
> Monitoring Process outlined in Ch. 8 of the Program Manual.
> - Approval allows the VSTL to begin test case development, testing, and
>   test report submittal.
> - A test plan is approved based on information submitted; therefore it is
>   unknown if relevant information was omitted that would affect the
>   testing campaign.
> - The test plan is a living document and is expected to change and be
>   updated during various phases of the testing life cycle. A final version
>   that reflects all of the testing completed (TDP, S/W, Hardware, Software
>   etc) should be submitted to the EAC at the completion of testing. If this
>   final "as run" test plan does not reflect all the testing required the EAC
>   reserves the right to request further updates to the test plan and possibly
>   additional testing.

4.7. Testing. During testing, Manufacturers are responsible for enabling VSTLs to report any changes to a voting system, or an approved test plan, directly to the EAC. Manufacturers shall also enable VSTLs to report all test failures or anomalies directly to the EAC.

4.7.1. <u>Changes</u>. Any changes to a voting system, initiated as a result of the testing process, will require submission of an updated Implementation Statement, functional diagram, and System Overview document and, potentially, an updated test plan. Test plans must be updated whenever a change to a voting system requires deviation from the test plan originally approved by the EAC. Changes requiring alteration or deviation from the originally approved test plan must be submitted to the EAC (by the VSTL) for approval before the completion of testing and shall include an updated Implementation Statement, functional diagram, and System Overview, as needed. Changes not affecting the test plan shall be reported in the test report and shall include an updated Implementation Statement, functional diagram, and System Overview document, as needed.

4.7.2. <u>Test Anomalies or Failures</u>. Manufacturers shall enable VSTLs to notify the EAC directly and independently of any test anomalies or failures during testing. The VSTLs shall ensure all anomalies or failures are addressed and resolved before testing is completed.   All test failures, anomalies and actions taken to resolve such failures and anomalies shall be documented by the VSTL in an appendix to the Test Report submitted to the EAC.   These matters shall be reported in a matrix, or similar format, that identifies the failure or anomaly, the applicable voting system standards, and a description of how the failure or anomaly was resolved. Associated or similar anomalies/failures may be summarized and reported in a single entry on the report (matrix) as long as the nature and scope of the anomaly/failure is clearly identified. The manufacturer shall conduct a root cause analysis for each anomaly following the format provided by the EAC. This analysis must be

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provided to the VSTL and the EAC prior to the beginning the Test Report phase of the test campaign.

4.7.3. <u>Deficiency Criteria</u>. The EAC has developed a number of metrics to determine if voting systems under test by a VSTL shall 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:

- The duration of time a system is in a VSTL for testing
- Significant delays/inactivity during a test campaign
- Type or significance of deficiencies found
- Total number of deficiencies, excluding source code coding convention deficiencies
- Defect Density Ratio
- A maximum number of errors in each of four categories, as defined later on in this section

Note: A deficiency, for the purposes of this document, is considered a non-conformity to the voting standard to which the voting system is being certified.

Voting systems shall be returned to a manufacturer for further readiness review and/or QA testing if any of the following conditions occur:

- 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;
  - o Two factors shall be considered in determining the significance of a deficiency:
    - The consequences of the deficiency to proper voting system function.
    - The extent of redesign necessary to fully remedy the deficiency. A full remedy goes beyond a superficial response to the symptoms, which leaves an underlying architectural flaw unaddressed, creating the potential for other manifestations of the deficiency to re-occur. A full remedy addresses the root cause of the deficiency and removes the cause of the problem that created the deficiency.
- The occurrence of 250 or more unique deficiencies, excluding coding convention deficiencies;
- Software defect density ratio (errors per 1000 lines of code) of
  - o   > 2.00 for voting systems of less than 250,000 lines of code

> o   > 1.75 for voting systems between 250,000 and 500,000 lines of code
>
> o   > 1.50 for voting systems of more than 500,000 lines of code;

Additionally, the following four categories of deficiencies shall also be used to determine when to return a voting system to a manufacturer:

- **Category 1 (Fatal Deficiency)**: A logic defect responsible for the incorrect recording, tabulation, or reporting of a vote.
    - o   Voting systems shall be returned to a manufacturer if one or more unique fatal deficiencies are discovered during one test campaign.[1]
- **Category 2 (Severe Deficiency)**: A deficiency that causes program execution to abort or causes a program not to perform properly or to produce unreliable results.
    - o   Voting systems shall be returned to a manufacturer if 10 or more unique severe deficiencies are discovered during one test campaign.
- **Category 3 (Significant Deficiency)**: A deficiency that is not a Category 1 or Category 2 deficiency.
    - o   Voting systems shall be returned to a manufacturer if 200 or more unique significant deficiencies are discovered during one test campaign.
- **Category 4 (Insignificant Deficiency)**: A minor deficiency, (including a source code coding convention deficiency, e.g. naming convention, control construct, coding or comment convention deficiency), a documentation deficiency, or a deficiency caused by a typographical error, and is not a Category 1, 2, or 3 deficiency.
    - o   Category 4 deficiencies are unlimited.

Two or more instances of a deficiency are considered to be the same unique deficiency if: 1) the outputs of each instance are identical; and 2) the same, specific remedy cures all instances of the deficiency. If a second deficiency is discovered that results in the same output as the first deficiency, but requires a different remedy to cure it, it shall be considered a second unique deficiency. Two similar deficiencies that require a modification within different areas of the source code to remedy the deficiency are to be considered separate and unique deficiencies.

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[1] Note that for some requirements, for example the accuracy requirements, some errors are allowed, so long as they remain below a specified threshold. A voting system that had errors under the specified threshold would not be judged deficient because the system meets the requirements of the voting system standard.

Note: The above categories of deficiencies describe conditions under which the voting system is returned to a manufacturer for further readiness review and/or QA testing. However, even if the thresholds for return to a manufacturer are not met, **all deficiencies** shall be corrected for a certificate to be issued.

The VSTL shall make the initial assignment for each deficiency into one of the four categories described above. The VSTL shall ensure that each deficiency is described and documented accurately in order to ensure the correct categorization of each deficiency. The EAC shall review the determinations of the VSTL and make the final determinations as to the categorization of deficiencies.

When a voting system is returned to a manufacturer for reasons described in this section, the manufacturer shall perform a thorough QA analysis to determine the reason for the deficiencies (root cause analysis). In addition, the manufacturer shall review its quality process and perform an analysis of how the identified deficiencies passed through its quality system. The manufacturer shall perform an extensive quality review to determine the extent of the QA issues and shall document the appropriate measures that are implemented to ensure that similar deficiencies do not occur again. Specifically, the manufacturer shall detail the specific changes made to its quality process and then the voting system to remedy the failures in the design and the quality process. All such documentation shall be submitted to the EAC for review. The manufacturer may re-apply for certification only after the EAC makes the determination that the QA analysis/review and the measures put in place, in both the quality system and the voting system design, are deemed adequate.

4.8. **Test Report**. Manufacturers shall enable VSTLs to submit test reports directly to the EAC. The VSTL shall submit test reports only if the voting system has been tested and all tests identified in the test plan have been successfully performed.

4.8.1. <u>Submission</u>. The test reports shall be submitted to the Program Director. The Program Director shall review the submission for completeness. Any reports showing incomplete or unsuccessful testing will be returned to the test laboratory for action and resubmission. Notice of this action will be provided to the Manufacturer. Test reports shall be submitted in Adobe PDF, Microsoft Word, or other electronic formats as prescribed by the Program Director. Information on how to submit reports will be posted on the EAC's website: www.eac.gov.

4.8.2. <u>Format</u>. Manufacturers shall ensure VSTLs submit reports consistent with the requirements in the VVSG and in the format outlined in Appendix E of this Manual. 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. In addition, the Test Report

must show that all mandatory (shall) requirements in the standard have been tested and successfully completed by the voting system as a prerequisite to certification.

4.8.3. <u>Technical Review</u>. A technical review of the test report, technical documents, and test plan will be conducted by EAC technical experts. The EAC may require the submission of additional information from the VSTL or Manufacturer if deemed necessary to complete the review. These experts will submit a report outlining their findings to the Program Director. The report will provide an assessment of the completeness, appropriateness, and adequacy of the VSTL's testing as documented in the test report.

4.8.4. <u>Program Director's Recommendation</u>. The Program Director shall review the report and take one of the following actions:

4.8.4.1. Recommend certification of the voting system consistent with the reviewed test report and forward it to the Decision Authority for action (Initial Decision); OR

4.8.4.2. Refer the matter back to the technical reviewers for additional, specified action and resubmission.

4.9. **Initial Decision on Certification**. Upon receipt of the report and recommendation of the Program Director, the Decision Authority shall issue an Initial Decision on Certification. The decision shall be forwarded to the Manufacturer consistent with the requirements of this Manual.

4.9.1. An Initial Decision granting certification shall be processed consistent with Chapter 5 of this Manual.

4.9.2. An Initial Decision denying certification shall be processed consistent with Chapter 6 of this Manual.

5. Grant of Certification

5.1. Overview. The grant of certification is the formal process through which the EAC acknowledges that a voting system has successfully completed conformance testing to an appropriate set of standards or guidelines. The grant of certification begins with the Initial Decision of the Decision Authority. This decision becomes final after the Manufacturer confirms that the final version of the software that was certified, and which the Manufacturer will deliver with the certified system, has been subject to a trusted build (see Section 5.6), placed in an EAC-approved repository (see Section 5.7), and can be verified using the Manufacturer's system identification tools (see Section 5.8). After a certification is issued, the Manufacturer is provided a Certificate of Conformance and relevant information about the system is added to the EAC's website. Manufacturers with certified voting systems are responsible for ensuring that each system it produces is properly labeled as certified.

5.2. Applicability of This Chapter. This chapter applies when the Decision Authority makes an Initial Decision to grant a certification to a voting system based on the materials and recommendation provided by the Program Director.

5.3. Initial Decision. The Decision Authority shall make a written decision on all voting systems submitted for certification and issue the decision to a Manufacturer. When such decisions result in a grant of certification, the decision shall be considered preliminary and referred to as an *Initial Decision* pending required action by the Manufacturer. The Initial Decision shall:

5.3.1. State the preliminary determination reached (granting certification).

5.3.2. Inform the Manufacturer of the steps that must be taken to make the determination final and receive a certification. This action shall include providing the Manufacturer with specific instructions, guidance, and procedures for confirming and documenting that the final certified version of the software meets the requirements for:

> 5.3.2.1. Performing and documenting a trusted build pursuant to Section 5.6 of this chapter.

> 5.3.2.2. Depositing software in an approved repository pursuant to Section 5.7 of this chapter.

> 5.3.2.3. Creating and making available system verification tools pursuant to Section 5.8 of this chapter.

5.3.3. Certification is not final until the Manufacturer accepts the certification and all conditions placed on the certification.

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5.4. Pre-Certification Requirements. Before an Initial Decision becomes final and a certification is issued, Manufacturers must ensure certain steps are taken. They must confirm that the final version of the software that was certified and which the Manufacturer will deliver with the certified system has been subject to a trusted build (see Section 5.6), has been delivered for deposit in an EAC-approved repository (see Section 5.7), and can be verified using Manufacturer-developed identification tools (see Section 5.8). The Manufacturer must provide the EAC documentation demonstrating compliance with these requirements.

5.5. Trusted Build. A software build (also referred to as a compilation) is the process whereby source code is converted to machine-readable binary instructions (executable code) for the computer. A "trusted build" (or trusted compilation) is a build performed with adequate security measures implemented to give confidence that the executable code is a verifiable and faithful representation of the source code. The primary function of a trusted build is to create a chain of evidence which allows stakeholders to have an approved model to use for verification of a voting system. Specifically, the build will:

5.5.1. Demonstrate that the software was built as described in the TDP.

5.5.2. Show that the tested and approved source code was actually used to build the executable code used on the system.

5.5.3. Demonstrate that no elements other than those included in the TDP were introduced in the software build. The vendor or source from which each COTS product was procured must be included in the TDP.

5.5.4. Document for future reference the configuration of the system certified.

5.5.5. Demonstrate that all COTS products are unmodified by requiring the VSTL to independently obtain all COTS products from an outside source.

5.6. Trusted Build Procedure. A trusted build is a three-step process: (1) the build environment is constructed, (2) the executable code and installation disks are created, and (3) the VSTL verifies that the trusted build was created and functions properly. The process may be simplified for a modification to a previously certified system. In each step, a minimum of two witnesses from different organizations are required to participate. These participants must include a VSTL representative and a manufacturer representative. Before creating the trusted build, the VSTL must complete the source code review of the software delivered from the manufacturer for compliance with the VVSG and must produce and record file signatures of all source code modules. Hashes shall use a current FIPS 140-2 level 1 or higher validated cryptographic module. After the trusted build is completed, there shall be no other "final" build. As the final step, the trusted build must be submitted to the EAC on two separate forms of media.

5.6.1.<u>Constructing the Build Environment</u>. The VSTL shall construct the build environment in an isolated environment controlled by the VSTL, as follows:

5.6.1.1. The device that will hold the build environment shall be completely erased, in accordance with Department of Defense or NIST approved methods. The VSTL shall ensure a complete erasure of the device.

5.6.1.2. The VSTL, with manufacturer observation, shall construct the build environment.

5.6.1.3. After construction of the build environment, the VSTL shall produce and record a file signature of the build environment.

5.6.1.4. A clone of the build environment computer's main storage media shall be created. File signatures shall be taken by the VSTL for verification purposes.

5.6.2.<u>Creating the Executable Code and Installation Disks.</u> After successful source code review the VSTL shall:

5.6.2.1. Check the file signatures of the source code modules and build environment to ensure they are unchanged from their original form.

5.6.2.2. Load the source code onto the build environment and produce and record the file signature of the resulting combination.

5.6.2.3. Produce the executable code, and produce and record file signatures of the executable code. A clone of the computer's main storage on which the executable code was created shall be created, with the file signatures verified by the VSTL.

5.6.2.4. The VSTL shall create installation disk(s) from the executable code, and produce and record file signatures of the installation disk(s).

5.6.3.<u>Verification of the Created Media.</u> Upon completion of all the tasks outlined above, the VSTL shall perform the following tasks:

5.6.3.1. Install the executable code onto the system submitted for testing and certification before the completion of system testing.

5.6.3.2. Produce and record file signatures of each voting system file resident on each device.

5.6.3.3. Verify that all media to be included in the Trusted Build and submitted to the EAC functions properly.

5.6.4. <u>Trusted Build for Modifications</u>. The process of building new executable code when a previously certified system has been modified can be somewhat simplified, if the build environment of the modification's original certification can be obtained.

5.6.4.1. The build environment used in the original certification is removed from storage and its file signature verified.

5.6.4.2. After source code review, the modified files are placed onto the verified build environment and new executable files are produced.

5.6.4.3. If the original build environment is unavailable or its file signatures cannot be verified against those recorded from the original certification, then the full process of creating the build environment must be performed. Further source code review may be required to validate that files are unmodified from the originally certified versions.

5.7. Depositing Software in the EAC Repository. After EAC certification has been granted, the VSTL's project manager, or an appropriate designee of the project manager, shall deliver for deposit the following elements into the EAC repository:

5.7.1. Description of items located on the deposit media, including a description of items to be deposited. This description should include:

5.7.1.1. Deposit size (physical and logical).
5.7.1.2. Utilities or third-party applications used to create the deposit such as OS utilities or third party software.
5.7.1.3. Encryption information, required passwords and/or crypto-keys or software programs required to access the deposited materials.

5.7.2. Source code used for the trusted build and its file signatures.

5.7.3. List identifying all known dependencies between components.

5.7.4. The final TDP of the voting system submitted for testing including all product bills of material, assembly drawings and schematics for the version being certified.

5.7.5. Build environment setup and configuration, including configuration settings for all compilers and third party components and whether the build process requires source code to be loaded to a specific location.

5.7.6. Build control files and/or scripts that control the build process.

5.7.7. Executable code produced by the trusted build and the file signatures of all files produced.

5.7.8. A detailed description of the Build Environment.

5.7.9. Installation device(s) and the file signatures of the installation devices.

5.7.10.   Build instructions describing how to compile the escrow deposit and build executable code. (Include hardware descriptions and OS system requirements, particularly any custom settings required.

5.7.11.   Names of all required applications necessary to compile and build executable code, objects, dynamic libraries, etc.

5.7.12.   A working copy of the certified version of the EMS for the voting system.

5.7.13.   The computer on which the trusted build was created shall have its hard disk drive, or other applicable storage media that contained the trusted build, removed and submitted to the EAC.

5.7.14.   The Manufacturer must provide hashes to the EAC.

5.8. System Identification Tools. The Manufacturer shall provide tools through which a fielded voting system may be identified and demonstrated to be unmodified from the system that was certified. The purpose of this requirement is to make such tools available to Federal, State, and local officials to identify and verify that the equipment used in elections is unmodified from its certified version. Manufacturers may develop and provide these tools as they deem appropriate or as required by the EAC. The tools, however, must provide the means to identify and verify hardware and software. The EAC may review the system identification tools developed by the Manufacturer to ensure compliance. VSTLs shall test system identification tools during the test campaign to make sure they function properly and as intended. System identification tools include the following examples:

5.8.1. Hardware is commonly identified by a model number and revision number on the unit, its printed wiring boards (PWBs), and major subunits. Typically, hardware is verified as unmodified by providing detailed photographs of the PWBs and internal construction of the unit. These images may be used to compare to the unit being verified.

5.8.2. Software operating on a host computer will typically be verified by providing a self-booting compact disk (CD) or similar device that verifies the file signatures of the voting system application files **and** the signatures of all nonvolatile files the application files access during their operation. Note that the creation of such a CD requires having a file map of all nonvolatile files used by the voting system. Such a tool must be provided for verification using the file signatures of the original executable files provided for testing. If during the certification process modifications are made and new executable files created, then the tool must be updated to reflect the file signatures of the final files to be distributed for use. For

software operating on devices in which a self-booting CD or similar device cannot be used, a procedure must be provided to allow identification and verification of the software that is being used on the device.

5.9. **Documentation**. Manufacturers shall provide documentation to the Program Director verifying the trusted build has been performed, software has been deposited in an approved repository, and system identification tools are available to election officials. The Manufacturer shall submit a letter, signed by both its management representative and a VSTL official, stating (under penalty of law) that it has (1) performed a trusted build consistent with the requirements of Section 5.6 of this Manual, (2) deposited software consistent with Section 5.7 of this Manual, and (3) created and made available system identification tools consistent with Section 5.8 of this Manual. This letter shall also include (as attachments) a copy and description of the system identification tool developed under Section 5.8 above.

5.10. **Agency Decision**. Upon receipt of documentation demonstrating the successful completion of the requirements above and recommendation of the Program Director, the Decision Authority will issue an Agency Decision granting certification and providing the Manufacturer with a certification number and Certificate of Conformance.

5.11. **Certification Document**. A Certificate of Conformance will be provided to Manufacturers for voting systems that have successfully met the standard of the EAC Certification Program. The document will serve as the Manufacturer's evidence that a particular system is certified to a particular set of voting system standards. The EAC certification and certificate apply only to the specific voting system configuration(s) identified, submitted and evaluated under the Certification Program. Any modification to the system not authorized by the EAC will void the certificate. The certificate will include the product (voting system) name, the specific model or version of the product tested, the name of the VSTL that conducted the testing, identification of the standards to which the system was tested, the EAC certification number for the product, and the signature of the EAC Executive Director. The certificate will also identify each of the various configurations of the voting system's components that may be represented as certified.

5.12. **Certification Number and Version Control**. Each system certified by the EAC will receive a certification number unique to the system which will remain with the system until such time as the system is decertified, sufficiently modified, or tested and certified to newer standards. Generally, when a previously certified system is issued a new certification number, the Manufacturer will be required to change the system's name or version number.

   5.12.1. <u>New Voting Systems and Those Not Previously Certified by the EAC</u>. All systems receiving their first certification from the EAC will receive a new certification number. Manufacturers must provide the EAC with the voting system's name and version number during the application process (Chapter 4). Systems previously certified by another body may retain the previous system name and version number unless the system was modified

before its submission to the EAC. Such modified systems must be submitted with a new naming convention (i.e., a new version number).

5.12.2. <u>Modifications</u>. Voting systems previously certified by the EAC and submitted for certification of a modification will generally receive a new voting system certification number. Such modified systems must be submitted with a new naming convention. In rare instances, the EAC may authorize retention of the same certification and naming convention when the modification is so minor that is does not represent a substantive change to the voting system. A request for such authorization must be made and approved by the EAC during the application phase of the program.

5.12.3. <u>Certification Upgrade</u>. Voting systems previously certified and submitted (without modification) for testing to a new version of the VVSG will receive a new certification number. In such cases, however, the Manufacturer will not be required to change the system name or version number.

5.12.4. <u>De Minimis Change</u>. Voting systems previously certified and implementing an approved De Minimis Change Order (per Chapter 3) will not be issued a new certification number and are not required to implement a new naming convention.

5.13. **Publication of EAC Certification**. The EAC will publish and maintain on its website a list of all certified voting systems, including copies of all Certificates of Conformance, supporting test reports, and voting system and Manufacturer information. Such information will be posted immediately following the Manufacturer's receipt of the EAC Final Decision and Certificate of Conformance.

5.14. **Representation of EAC Certification**. Manufacturers may not represent or imply a voting system is EAC certified unless it has received a Certificate of Conformance for the system. Statements regarding EAC certification in brochures, on websites, on displays, and in advertising/sales literature must be made solely in reference to specific systems. Any action by a Manufacturer to suggest EAC endorsement of its product or organization is strictly prohibited and may result in a Manufacturer's suspension or other action pursuant to Federal civil and criminal law. Manufacturers must provide a copy of the Certificate and Scope of Certification document (found at www.eac.gov) to any jurisdiction purchasing an EAC certified system.

5.15. **Mark of Certification Requirement**. Manufacturers shall post a Mark of Certification (Mark) on all EAC-certified voting systems produced. This mark or label must be securely attached to the system before sale, lease, or release to third parties. A mark of certification shall be made using an EAC-mandated template. These templates identify the version of the VVSG or VSS to which the system is certified. Use of this template shall be mandatory and the EAC will provide the Mark as a template in .jpg, .eps, .pdf, and .tif formats. Manufacturers who need access to the Mark pursuant to labeling an EAC certified voting system should send

a formal request, via email or letter, to the Director. The request must include the specific voting system and version number(s), indication of where the Mark will be displayed on the voting system, and specification of the format in which the Mark will be reproduced. The EAC Mark must be displayed as follows:

5.15.1. The Manufacturer may use only the Mark of Certification that accurately reflects the certification held by the voting system as a whole. The certification of individual components or modifications shall not be independently represented by a Mark of Certification. In the event a system has components or modifications tested to various (later) versions of the VVSG, the system shall bear only the Mark of Certification of the standard to which the system (as a whole) was tested and certified (i.e. the lesser standard). Ultimately, a voting system shall only display the Mark of Certification of the oldest or least rigorous standard to which any of its components are certified.

5.15.2. The Mark shall be placed on the outside of a unit of voting equipment in a place readily visible to election officials. The Mark need not be affixed to each of the voting system's components. The Mark shall be affixed to either (1) each unit that is used to cast ballots or (2) each unit that is used to tabulate ballots.

5.15.3. All labels bearing the EAC Mark of Certification shall be designed and applied to voting equipment so that the labels will remain in place and be clear and legible during the customary conditions of distribution, storage, voting and routine testing and maintenance. The materials used for the label, printing and adhesives shall be reasonably expected to last the normal and projected lifespan of the voting system. If using an adhesive type label for the Mark of Certification, the label stock material shall be such that the label cannot be removed intact and reapplied. The label shall also be designed to resist the effects of cleaning agents specified by the manufacturer. The Mark of Certification shall remain clear and legible after the use of any recommended cleaning agents as specified by the manufacturer and adhesive labels, if used, shall not have become loose or curled at the edges.

5.15.4. If the EAC determines a voting system is not in compliance with the VVSG, and the system has already been sold or otherwise distributed bearing the Mark of Certification, the EAC shall provide written notice to the Manufacturer. If the Manufacturer fails to take corrective action within 15 days of receipt of such notice, the EAC shall have the right to announce publicly that the voting system may no longer comply with its original certification, and may choose to initiate decertification actions as outlined in Chapter 7 of the *Manual*, and/or suspension of Manufacturer Registration as outlined in Section 2.6 of the *Manual*. Corrective action may include modification of the voting system to bring it into compliance with the VVSG, or removal of the Mark of Certification from the product.

5.16.   **Information to Election Officials Purchasing Voting Systems.** The user's manual or instruction manual for a certified voting system shall warn purchasers that any changes or

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modifications to the system not tested and certified by the EAC will void the EAC certification of the voting system. In cases in which the manual is only provided in a form other than paper, such as on a CD or via the Internet, the information required in this section may be included in this alternative format provided the election official can reasonably be expected to have the capability to access information in that format.

6. Denial of Certification

6.1. Overview. When the Decision Authority issues an Initial Decision denying certification, the Manufacturer has certain rights and responsibilities. The Manufacturer may request an opportunity to cure the defects identified by the Decision Authority. In addition, the Manufacturer may request that the Decision Authority reconsider the Initial Decision after the Manufacturer has had the opportunity to review the record and submit supporting written materials, data, and the rationale for its position. Finally, in the event reconsideration is denied, the Manufacturer may appeal the decision to the Appeal Authority.

6.2. Applicability of This Chapter. This chapter applies when the Decision Authority makes an Initial Decision to deny an application for voting system certification based on the materials and recommendation provided by the Program Director.

6.3. Form of Decisions. All agency determinations shall be made in writing. All materials and recommendations reviewed, or used by agency decision makers in making an official determination, shall be in written form.

6.4. Effect of Denial of Certification. Upon receipt of the agency's decision denying certification—or in the event of an appeal, subject to the decision on appeal—the Manufacturer's application for certification shall be denied. Such systems will not be reviewed again by the EAC for certification unless the Manufacturer alters the system, retests it, and submits a new application for system certification.

6.5. The Record. The Program Director shall maintain all documents related to a denial of certification. Such documents shall constitute the procedural and substantive record of the decision making process. Records may include the following:

6.5.1. The Program Director's report and recommendation to the Decision Authority.

6.5.2. The Decision Authority's Initial Decision and Final Decision.

6.5.3. Any materials gathered by the Decision Authority that serve as a basis for a certification determination.

6.5.4. All relevant and allowable materials submitted by the Manufacturer upon request for reconsideration or appeal.

6.5.5. All correspondence between the EAC and a Manufacturer after the issuance of an Initial Decision denying certification.

6.6. Initial Decision. The Decision Authority shall make and issue a written decision for voting systems submitted for certification. When such decisions result in a denial of certification, the

decision shall be considered preliminary and referred to as an *Initial Decision*. Initial Decisions shall be in writing and contain (1) the Decision Authority's basis and explanation for the decision and (2) notice of the Manufacturer's rights in the denial of certification process.

6.6.1. Basis and Explanation. The Initial Decision of the Decision Authority shall accomplish:

   6.6.1.1. Clearly state the agency's decision on certification.

   6.6.1.2. Explain the basis for the decision, including:

      6.6.1.2.1.   The relevant facts.

      6.6.1.2.2.   The applicable EAC voting system standard.

      6.6.1.2.3.   The relevant analysis in the Program Director's recommendation.

      6.6.1.2.4.   The reasoning behind the decision.

   6.6.1.3. State the actions the Manufacturer must take, if any, to cure all defects in the voting system and obtain a certification.

6.6.2. Manufacturer's Rights. The written Initial Decision must also inform the Manufacturer of its procedural rights under the program, including the following:

   6.6.2.1. Right to request reconsideration. The Manufacturer shall be informed of its right to request a timely reconsideration (see Section 6.9). Such request must be made within 10 calendar days of the Manufacturer's receipt of the Initial Decision.

   6.6.2.2. Right to request a copy or otherwise have access to the information that served as the basis of the Initial Decision (the record).

   6.6.2.3. Right to cure system defects prior to Final Decision (see Section 6.8). A Manufacturer may request an opportunity to cure within 10 calendar days of its receipt of the Initial Decision.

6.7. No Manufacturer Action on Initial Decision. If a Manufacturer takes no action (by either failing to request an opportunity to cure or request reconsideration) within 10 calendar days of its receipt of the Initial Decision, the Initial Decision shall become the agency's Final Decision on certification. In such cases, the Manufacturer is determined to have foregone its right to reconsideration, cure, and appeal. The certification application shall be considered denied.

6.8. Opportunity to Cure. Within 10 calendar days of receiving the EAC's Initial Decision on certification, a Manufacturer may request an opportunity to cure the defects identified in the

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EAC's Initial Decision. If the request is approved, a compliance plan must be created, approved, and followed. If this cure process is successfully completed, a voting system denied certification in an Initial Decision may receive a certification without resubmission.

6.8.1. <u>Manufacturer's Request to Cure</u>. The Manufacturer must request to cure in writing to the Program Director within 10 calendar days of receipt of an Initial Decision.

6.8.2. <u>EAC Action on Request</u>. The Decision Authority will review the request and notify the manufacturer in writing if the request to cure is approved or denied. The Decision Authority will deny a request to cure only if the proposed plan to cure is inadequate or does not present a viable way to remedy the identified defects. If the Manufacturer's request to cure is denied, it shall have 10 calendar days from the date it received such notice to request reconsideration of the Initial Decision pursuant to Section 6.6.2.

6.8.3. <u>Manufacturer's Compliance Plan</u>. Upon approval of the Manufacturer's request for an opportunity to cure, the manufacturer shall submit a compliance plan to the Decision Authority for approval. This compliance plan must set forth steps to be taken to cure all identified defects. It shall include the proposed changes to the system, updated technical information (as required by Section 4.3.2), and a new test plan created and submitted directly to the EAC by the VSTL (testing the system consistent with Section 4.4.2.3). The plan shall also provide for the testing of the amended system and submission of a test report by the VSTL to the EAC for approval. It should provide an estimated date for receipt of this test report and include a schedule of periodic VSTL progress reports to the Program Director.

6.8.4. <u>EAC Action on the Compliance Plan</u>. The Decision Authority must review and approve the compliance plan. The Decision Authority may require the Manufacturer to provide additional information and modify the plan as required. If the Manufacturer is unable or unwilling to provide a compliance plan acceptable to the Decision Authority, the Decision Authority shall provide written notice terminating the cure process. The Manufacturer shall have 10 calendar days from the date it receives such notice to request reconsideration of the Initial Decision pursuant to Section 6.6.2.

6.8.5. <u>Compliance Plan Test Report</u>. The VSTL shall submit the test report created pursuant to its EAC-approved compliance plan. The EAC shall review the test report, along with the original test report and other materials originally provided. The report will be technically reviewed by the EAC consistent with the procedures laid out in Chapter 4 of this Manual.

6.8.6. <u>EAC Decision on the System</u>. After receipt of the test plan, the Decision Authority shall issue a decision on a voting system amended pursuant to an approved compliance plan. This decision shall be issued in the same manner and with the same process and rights as an Initial Decision on Certification.

6.9.   Requests for Reconsideration. Manufacturers may request reconsideration of an Initial Decision.

   6.9.1. <u>Submission of Request</u>. A request for reconsideration must be made within 10 calendar days of the Manufacturer's receipt of an Initial Decision. The request shall be made and sent to the Decision Authority.

   6.9.2. <u>Acknowledgment of Request</u>. The Decision Authority shall acknowledge receipt of the Manufacturer's request for reconsideration. This acknowledgment shall either enclose all information that served as the basis for the Initial Decision (the record) or provide a date by which the record will be forwarded to the Manufacturer.

   6.9.3. <u>Manufacturer's Submission</u>. Within 30 calendar days of receipt of the record, a Manufacturer may submit written materials in support of its position, including the following:

      6.9.3.1. A written argument responding to the conclusions in the Initial Decision.

      6.9.3.2. Documentary evidence relevant to the issues raised in the Initial Decision.

   6.9.4. <u>Decision Authority's Review of Request</u>. The Decision Authority shall review and consider all relevant submissions of the Manufacturer. In making a decision on reconsideration, the Decision Authority shall also consider all documents that make up the record and any other documentary information he or she determines relevant.

6.10.   Agency Final Decision. The Decision Authority shall issue a written Final Decision after review of the Manufacturer's request for reconsideration. This Decision shall be the decision of the agency and shall include:

   6.10.1. The agency's determination on the application for certification.

   6.10.2. The issues raised by the Manufacturer in its request for reconsideration.

   6.10.3. All facts, evidence, and EAC voting system standards that serve as the basis for the decision.

   6.10.4. The reasoning behind the determination.

   6.10.5. Any additional documentary information identified and provided as an attachment that serves as a basis for the decision and was not part of the Manufacturer's submission or the prior record.

   6.10.6. The Manufacturer notice of its right to appeal.

6.11. **Appeal of Agency Final Decision**. A Manufacturer may, upon receipt of a Final Decision denying certification, issue a request for appeal.

6.11.1. Requesting Appeal. A Manufacturer may appeal a final decision of the agency by issuing a written request for appeal.

6.11.1.1. *Submission*. Requests must be submitted in writing to the Program Director, addressed to Chair of the U.S. Election Assistance Commission.

6.11.1.2. *Timing of Appeal*. The Manufacturer may request an appeal within 20 calendar days of receipt of the Agency Final Decision. Late requests will not be considered.

6.11.1.3. *Contents of Request*.

6.11.1.3.1. The request must clearly state the specific conclusions of the Final Decision it wishes to appeal.

6.11.1.3.2. The request may include additional written argument.

6.11.1.3.3. The request may not reference or include any factual material not in the record.

6.11.2. Consideration of Appeal. All timely appeals will be considered by the Appeal Authority.

6.11.2.1. The Appeal Authority shall be two or more EAC Commissioners or other individuals appointed by the Commissioners who have not previously served as the initial or reconsideration authority on the matter.

6.11.2.2. All decisions on appeal shall be based on the record.

6.11.2.3. The determination of the Decision Authority shall be given deference by the Appeal Authority. Although it is unlikely that the scientific certification process will produce factual disputes, in such cases, the burden of proof shall belong to the Manufacturer, to demonstrate by clear and convincing evidence, that its voting system met all substantive and procedural requirements for certification. In other words, the determination of the Decision Authority will be overturned only when the Appeal Authority finds the ultimate facts in controversy highly probable.

6.12. **Decision on Appeal**. The Appeal Authority shall make a written, final Decision on Appeal and shall provide it to the Manufacturer.

6.12.1. <u>Contents</u>. The following are required to be contained in the Decision on Appeal:

  6.12.1.1. The final determination of the agency.

  6.12.1.2. The matters raised by the Manufacturer on appeal.

  6.12.1.3. The reasoning behind the decisions.

  6.12.1.4. Statement that the Decision on Appeal is final.

6.12.2. <u>Determinations</u>. The Appeal Authority may make one of two determinations.

  6.12.2.1. *Grant of Appeal.* If the Appeal Authority determines that the conclusions of the Decision Authority shall be overturned <u>in full</u>, the appeal shall be granted. In such cases, certification will be approved subject to the requirements of Chapter 5.

  6.12.2.2. *Denial of Appeal.* If the Appeal Authority determines that <u>any part</u> of the Decision Authority's determination shall be upheld, the appeal shall be denied. In such cases, the application for appeal is denied.

6.12.3. <u>Effect</u>. All Decisions on Appeal shall be final and binding on the Manufacturer. No additional appeal shall be granted.

7. Decertification

7.1. Overview. Decertification is the process by which the EAC revokes a certification previously granted to a voting system. It is an important part of the Certification Program because it serves to ensure the standards of the program are followed and certified voting systems fielded for use in Federal elections maintain the same level of quality as those presented for testing. Decertification is a serious matter. Its use will significantly affect Manufacturers, State and local governments, the public, and the administration of elections. As such, the process for Decertification is complex. It is initiated when the EAC receives information that a voting system may not be in compliance with the Voluntary Voting System Guidelines or the procedural requirements of this Manual. Upon receipt of this information, the Program Director may initiate an Informal Inquiry to determine the credibility of the information. If the information is credible and suggests the system is non-compliant, a Formal Investigation will be initiated. If the results of the Formal Investigation demonstrate non-compliance, the Manufacturer will be provided a Notice of Non-Compliance. Before a final decision on Decertification is made, the Manufacturer will have the opportunity to remedy any defects identified in the voting system and present information for consideration by the Decertification Authority. A Decertification of a voting system may be appealed in a timely manner.

7.2. Decertification Policy. Voting systems certified by the EAC are subject to Decertification. Systems shall be decertified if (1) they are shown not to meet applicable Voluntary Voting System Guidelines standards, (2) they have been modified or changed without following the requirements of this Manual, or (3) the Manufacturer has otherwise failed to follow the procedures outlined in this Manual and the quality, configuration, or compliance of the system is in question. Systems will be decertified only after completion of the process outlined in this chapter.

7.3. Informal inquiry. An Informal Inquiry is the first step taken when information is presented to the EAC that suggests a voting system may not be in compliance with the Voluntary Voting System Guidelines standards or the procedural requirements of this Manual.

7.3.1. <u>Informal Inquiry Authority</u>. The authority to conduct an Informal Inquiry shall rest with the Program Director.

7.3.2. <u>Purpose</u>. The sole purpose of the Informal Inquiry is to determine whether a Formal Investigation is warranted. The outcome of an Informal Inquiry is limited to a decision on referral for investigation.

7.3.3. <u>Procedure</u>. Informal Inquiries do not follow a formal process.

7.3.3.1. *Initiation*. Informal Inquiries are initiated at the discretion of the Program Director. They may be initiated any time the Program Director receives

attributable, relevant information that suggests a certified voting system may require Decertification. The information shall come from a source that has directly observed or witnessed the reported occurrence. Such information may be a product of the Certification Quality Monitoring Program (see Chapter 8). Information may also come from State and local election officials, voters or others who have used or tested a given voting system. The Program Director may notify a Manufacturer that an Informal Inquiry has been initiated, but such notification is not required. Initiation of an inquiry shall be documented through the creation of a Memorandum for the Record.

7.3.3.2. *Inquiry*. The Informal Inquiry process is limited to inquiries necessary to determine whether a Formal Investigation is required. In other words, the Program Director shall conduct such inquiry necessary to determine (1) the accuracy of the information obtained; and (2) if the information, if true, would serve as a basis for Decertification. The nature and extent of the inquiry process will vary depending on the source of the information. For example, an Informal Inquiry initiated as a result of action taken under the Certification Quality Monitoring Program will often require the Program Director merely to read the report issued as a result of the Quality Monitoring action. On the other hand, information provided by election officials or by voters who have used a voting system may require the Program Director (or assigned technical experts) to perform an in-person inspection or make inquiries of the Manufacturer.

7.3.3.3. *Conclusion*. An Informal Inquiry shall be concluded after the Program Director determines the accuracy of the information that initiated the inquiry and whether that information, if true, would warrant Decertification. The Program Director may make only two conclusions: (1) refer the matter for a Formal Investigation or (2) close the matter without additional action or referral.

7.3.4. Closing the Matter without Referral. If the Program Director determines, after Informal Inquiry, a matter does not require a Formal Investigation, the Program Director shall close the inquiry by filing a Memorandum for the Record. This document shall state the focus of the inquiry, the findings of the inquiry and the reasons a Formal Investigation was not warranted.

7.3.5. Referral. If the Program Director determines, after Informal Inquiry, a matter requires a Formal Investigation, the Program Director shall refer the matter in writing to the Decision Authority. In preparing this referral, the Program Director:

7.3.5.1. State the facts that served as the basis for the referral.

7.3.5.2. State the findings of the Program Director.

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7.3.5.3. Attach all documentary evidence that served as the basis for the conclusion.

7.3.5.4. Recommend a Formal Investigation, specifically stating the system to be investigated and the scope and focus of the proposed investigation.

7.4. Formal Investigation. A Formal Investigation is an official investigation to determine whether a voting system warrants Decertification. The end result of a Formal Investigation is a Report of Investigation.

7.4.1. <u>Formal Investigation Authority</u>. The Decision Authority shall have the authority to initiate and conclude a Formal Investigation by the EAC.

7.4.2. <u>Purpose</u>. The purpose of a Formal Investigation is to gather and document relevant information sufficient to make a determination on whether an EAC-certified voting system warrants Decertification consistent with the policy put forth in Section 7.2.

7.4.3. <u>Initiation of Investigation</u>. The Decision Authority shall authorize the initiation of an EAC Formal Investigation.

7.4.3.1. *Scope*. The Decision Authority shall clearly set the scope of the investigation by identifying (in writing) the voting system (or systems) and specific procedural or operational non-conformance to be investigated. The non-conformance to be investigated shall be set forth in the form of numbered allegations.

7.4.3.2. *Investigator*. The Program Director shall be responsible for conducting the investigation unless the Decision Authority appoints another individual to conduct the investigation. The Program Director (or Decision Authority appointee) may assign staff or technical experts, as required, to investigate the matter.

7.4.4. <u>Notice of Formal Investigation</u>. Upon initiation of a Formal Investigation, notice shall be given to the Manufacturer of the scope of the investigation, which shall include:

7.4.4.1. Identification of the voting system and specific procedural or operation non-conformance being investigated (scope of investigation).

7.4.4.2. An opportunity for the manufacturer to provide relevant information in writing.

7.4.4.3. An estimated timeline for the investigation.

7.4.5. <u>Investigation</u>. Investigations shall be conducted impartially, diligently, promptly, and confidentially and shall utilize appropriate techniques to gather the necessary information.

7.4.5.1. *Fair and Impartial Investigation*. All Formal Investigations shall be conducted in a fair and impartial manner. All individuals assigned to an investigation must be free from any financial conflicts of interest.

7.4.5.2. *Diligent Collection of Information*. All investigations shall be conducted in a meticulous and thorough manner. Investigations shall gather all relevant information and documentation that is reasonably available. The diligent collection of information is vital for informed decision making.

7.4.5.3. *Prompt Collection of Information*. Determinations that may affect the administration of Federal elections must be made in a reasonable, yet expedited manner. The EAC's determinations on Decertification will affect the actions of State and local election officials conducting elections and as such, all investigations regarding Decertification must proceed with an appropriate sense of urgency.

7.4.5.4. *Confidential Collection of Information*. Consistent with Federal law, information pertaining to a Formal Investigation should not be made public until the Report of Investigation is complete. The release of incomplete and unsubstantiated information or predecisional opinions that may be contrary or inconsistent with the final determination of the EAC could cause public confusion or could unnecessarily negatively affect public confidence in active voting systems. Such actions could serve to impermissibly affect election administration and voter turnout. All predecisional investigative materials must be appropriately safeguarded.

7.4.5.5. *Methodologies*. Investigators shall gather information by means consistent with the four principles noted above. Investigative tools include (but are not limited to) the following:

> 7.4.5.5.1.   Interviews. Investigators may interview individuals (such as State and local election officials, voters, or manufacturer representatives). All interviews shall be reduced to written form; each interview should be summarized in a statement that is reviewed, approved, and signed by the interviewee.

> 7.4.5.5.2.   Field audits.

> 7.4.5.5.3.   Manufacturer site audits.

> 7.4.5.5.4.   Written interrogatories. Investigators may pose specific, written questions to the Manufacturer for the purpose of gathering information relevant to the investigation. The Manufacturer shall

respond to the queries within a reasonable timeframe (as specified in the request).

    7.4.5.5.5.   System testing. Testing may be performed in an attempt to reproduce a condition or failure that has been reported. This testing will be conducted at a VSTL as designated by the EAC.

    7.4.5.6. *Report of Investigation*. The end result of a Formal Investigation is a Report of Investigation.

7.4.6. <u>Report of Investigation</u>. The Report of Investigation serves primarily to document: (1) all relevant and reliable information gathered in the course of the investigation; and (2) the conclusion reached by the Decision Authority.

    7.4.6.1. *When Complete*. The report is complete and final when certified and signed by the Decision Authority.

    7.4.6.2. *Contents of the Report of Investigation*. The following shall be included in the written report:

        7.4.6.2.1.   The scope of the investigation, identification of the voting system and specific matter investigated.

        7.4.6.2.2.   Description of the investigative process employed.

        7.4.6.2.3.   Summary of the relevant and reliable facts and information gathered in the course of the investigation.

        7.4.6.2.4.   All relevant and reliable evidence collected in the course of the investigation that documents the facts shall be documented and attached.

        7.4.6.2.5.   Analysis of the information gathered.

        7.4.6.2.6.   Statement of the findings of the investigation.

7.4.7. <u>Findings, Report of Investigation</u>. The Report of Investigation shall state one of two conclusions. After gathering and reviewing all applicable facts, the report shall find each allegation investigated to be either (1) substantiated or (2) unsubstantiated.

    7.4.7.1. *Substantiated Allegation*. An allegation is substantiated if a preponderance of the relevant and reliable information gathered requires the voting system in question

to be decertified (consistent with the policy set out in Section 7.2). If any allegation is substantiated a Notice of Non-Compliance shall be issued.

7.4.7.2. *Unsubstantiated Allegation*. An allegation is unsubstantiated if the preponderance of the relevant and reliable information gathered does not warrant Decertification (see Section 7.2). If all allegations are unsubstantiated, the matter shall be closed and a copy of the report forwarded to the Manufacturer.

7.4.8. Publication of Report. The report shall not be made public nor released to the public until final.

7.5. Effect of Informal Inquiry or Formal Investigation on Certification. A voting system's EAC certification is not affected by the initiation or conclusion of an Informal Inquiry or Formal Investigation. Systems under investigation remain certified until a final Decision on Decertification is issued by the EAC.

7.6. Notice of Non-Compliance. If an allegation in a Formal Investigation is substantiated, the Decision Authority shall send the Manufacturer a Notice of Non-Compliance. The Notice of Non-Compliance is not, itself, a Decertification of the voting system. The purpose of the notice is to (1) notify the Manufacturer of the non-compliance and the EAC's intent to Decertify the system; and (2) inform the Manufacturer of its procedural rights so that it may be heard prior to Decertification.

7.6.1. Noncompliance Information. The following shall be included in a Notice of Non-Compliance:

7.6.1.1. A copy of the Report of Investigation to the Manufacturer.

7.6.1.2. The non-compliance, consistent with the Report of Investigation.

7.6.1.3. Notification to the Manufacturer that if the voting system is not made compliant, the voting system will be decertified.

7.6.1.4. State the actions the Manufacturer must take, if any, to bring the voting system into compliance and avoid Decertification.

7.6.2. Manufacturer's Rights. The written Notice of Non-compliance shall also inform the Manufacturer of its procedural rights under the program, which include the following:

7.6.2.1. *Right to Present Information Prior to Decertification Decision*. The Manufacturer shall be informed of its right to present information to the Decision Authority prior to a determination of Decertification.

7.6.2.2. *Right to Have Access to the Information That Will Serve as the Basis of the Decertification Decision.* The Manufacturer shall be provided the Report of Investigation and any other materials that will serve as the basis of an agency Decision on Decertification.

7.6.2.3. *Right to Cure System Defects Prior to the Decertification Decision.* A Manufacturer may request an opportunity to cure within 20 calendar days of its receipt of the Notice of Non-Compliance.

7.7. Procedure for Decision on Decertification. The Decision Authority shall make and issue a written Decision on Decertification whenever a Notice of Non-Compliance is issued. The Decision Authority will not take such action until the Manufacturer has had a reasonable opportunity to cure the non-compliance and submit information for consideration.

7.7.1. <u>Opportunity to Cure</u>. The Manufacturer shall have an opportunity to cure a non-conformant voting system in a *timely* manner prior to Decertification. A cure shall be considered timely when the process can be completed before the next Federal election, meaning that any proposed cure must be in place before *any* individual jurisdiction fielding the system holds a Federal election. The Manufacturer must request the opportunity to cure and if the request is approved, a compliance plan must be created, approved by the EAC, and adhered to. If the cure process is successfully completed, a Manufacturer may modify a non-compliant voting system, remedy procedural discrepancies, or otherwise bring its system into compliance without resubmission or Decertification.

7.7.1.1. *Manufacturer's Request to Cure.* Within 10 calendar days of receiving the EAC's Notice of Non-Compliance, a Manufacturer may request an opportunity to cure all defects identified in the Notice of Non-Compliance in a *timely* manner. The request must be sent to the Decision Authority and outline how the Manufacturer intends to modify the system, update the technical information (as required by Section 4.3.2), have a VSTL create a test plan and test the system, and obtain EAC approval before the next election for Federal office.

7.7.1.2. *EAC Action on Request.* The Decision Authority will review the request and approve it if the defects identified in the Notice of Non-Compliance may reasonably be cured before the next election for Federal office.

7.7.1.3. *Manufacturer's Compliance Plan.* Upon approval of the Manufacturer's request for an opportunity to cure, the Manufacturer shall submit a compliance plan to the Decision Authority for approval. This compliance plan must set forth the steps to be taken (including time frames) to cure <u>all</u> identified defects in a timely manner. The plan shall describe the proposed changes to the system, provide for modification of the system, update the technical information required by Section 4.3.2, include a test plan delivered to the EAC by the VSTL (testing the system

consistent with Section 4.4.2.3), and provide for the VSTL's testing of the system and submission of the test report to the EAC for approval. The plan shall also include a schedule of periodic progress reports to the Program Director.[2]

7.7.1.4. *EAC Action on the Compliance Plan*. The Decision Authority must review and approve the compliance plan. The Decision Authority may require the Manufacturer to provide additional information and modify the plan as required. If the Manufacturer is unable or unwilling to provide a Compliance Plan acceptable to the Decision Authority, the Decision Authority shall provide written notice terminating the "opportunity to cure" process.

7.7.1.5. *VSTL's Submission of the Compliance Plan Test Report*. The VSTL shall submit the test report created pursuant to the Manufacturer's EAC-approved Compliance Plan. The EAC shall review the test report and any other necessary or relevant materials. The report will be reviewed by the EAC in a manner similar to the procedures described in Chapter 4 of this Manual.

7.7.1.6. *EAC Decision on the System*. After receipt of the VSTL's test report, the Decision Authority shall issue a decision within 20 working days.

7.7.2. <u>Opportunity to Be Heard</u>. The Manufacturer may submit written materials in response to the Notice of Non-Compliance and Report of Investigation. These documents shall be considered by the Decision Authority when making a determination on Decertification. The Manufacturer shall ordinarily have 20 calendar days from the date it received the Notice of Non-Compliance (or in the case of a failed effort to cure, the termination of that process) to deliver its submissions to the Decision Authority. When warranted by public interest (because a delay in making a determination on Decertification would affect the timely, fair, and effective administration of a Federal election), the Decision Authority may request a Manufacturer to submit information within a condensed timeframe. This alternative period (and the basis for it) must be stated in the Notice of Non-Compliance and must allow the Manufacturer a reasonable amount of time to gather its submissions. Submissions may include the following materials:

7.7.2.1. A written argument responding to the conclusions in the Notice of Non-Compliance or Report of Investigation.

7.7.2.2. Documentary evidence relevant to the allegations or conclusions in the Notice of Non-Compliance.

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[2] Manufacturers should also be cognizant of State certification procedures and local pre-election logic and accuracy testing. Systems that meet EAC guidelines will also be impacted by independent State and local requirements. These requirements may also prevent a system from being fielded, irrespective of EAC Certification.

7.7.3.<u>Decision on Decertification</u>. The Decision Authority shall make an agency determination on Decertification.

7.7.3.1. *Timing*. The Decision Authority shall promptly make a decision on Decertification. The Decision Authority may not issue such a decision, however, until the Manufacturer has provided all of its written materials for consideration or the time allotted for submission (usually 20 calendar days) has expired.

7.7.3.2. *Considered Materials*. The Decision Authority shall review and consider all relevant submissions by the Manufacturer. To reach a decision on Decertification, the Decision Authority shall consider all documents that make up the record and any other documented information deemed relevant.

7.7.3.3. *Agency Decision*. The Decision Authority shall issue a written Decision on Decertification after review of applicable materials. This decision shall be the final decision of the agency. The following shall be included in the decision:

7.7.3.3.1.   The agency's determination on the Decertification, specifically addressing the areas of non-compliance investigated.

7.7.3.3.2.   The issues raised by the Manufacturer in the materials it submitted for consideration.

7.7.3.3.3.   Facts, evidence, procedural requirements, and/or voting system standards (VVSG or VSS) that served as the basis for the decision.

7.7.3.3.4.   The reasoning for the decision.

7.7.3.3.5.   Documented information, identified and provided as an attachment, that served as a basis for the decision and that was not part of the Manufacturer's submission or the Report of Investigation.

7.7.3.3.6.   Notification to the Manufacturer of its right to appeal.

7.8. Effect of Decision Authority's Decision on Decertification. The Decision Authority's Decision on Decertification is the determination of the agency. A Decertification is effective upon the EAC's Publication or Manufacturer's receipt of the decision (whichever is earlier). A Manufacturer that has had a voting system decertified may appeal that decision.

7.9. Appeal of Decertification. A Manufacturer may, upon receipt of a Decision on Decertification, request an appeal in a timely manner.

7.9.1.<u>Requesting Appeal</u>.

7.9.1.1. *Submission*. Requests must be submitted by the Manufacturer in writing to the Chair of the U.S. Election Assistance Commission.

7.9.1.2. *Timing of Appeal*. The Manufacturer may request an appeal within 20 calendar days of receipt of the Agency Final Decision on Decertification. Late requests will not be considered.

7.9.1.3. *Contents of Request*. The following actions are necessary for the Manufacturer to write and submit a request for appeal:

7.9.1.3.1.   Clearly state the specific conclusions of the Final Decision the Manufacturer wishes to appeal.

7.9.1.3.2.   Include additional written argument, if any.

7.9.1.3.3.   Do not reference or include any factual material not previously considered or submitted to the EAC.

7.9.1.4. *Effect of Appeal on Decertification*. The initiation of an appeal does not affect the decertified status of a voting system. Systems are decertified upon notice of Decertification in the agency's Decision on Decertification (see Section 7.8).

7.9.2. <u>Consideration of Appeal</u>. All timely appeals will be considered by the Appeal Authority.

7.9.2.1. The Appeal Authority shall consist of two or more EAC Commissioners or other individual(s) designated by the Commissioners who has not previously served as an investigator, advisor, or decision maker in the Decertification process.

7.9.2.2. All decisions on appeal shall be based on the record.

7.9.2.3. The decision of the Decision Authority shall be given deference by the Appeal Authority. Although it is unlikely that the scientific certification process will produce factual disputes, in such cases, the burden of proof shall belong to the Manufacturer to demonstrate by clear and convincing evidence that its voting system met all substantive and procedural requirements for certification. In other words, the determination of the Decision Authority will be overturned only when the Appeal Authority finds the ultimate facts in controversy highly probable.

7.9.3. <u>Decision on Appeal</u>. The Appeal Authority shall issue a written, final Decision on Appeal that shall be provided to the Manufacturer. Each Decision on Appeal shall be final and

binding and no additional appeal shall be granted. The following shall be included in a Decision on Appeal:

    7.9.3.1. The final determination of the agency.

    7.9.3.2. The matters raised by the Manufacturer on appeal.

    7.9.3.3. The reasoning behind the decision.

    7.9.3.4. Statement that the decision on appeal is final.

7.9.4. <u>Effect of Appeal</u>.

    7.9.4.1. *Grant of Appeal*. If a Manufacturer's appeal is granted in whole, the decision of the Decision Authority shall be reversed and the voting system shall have its certification reinstated. For purposes of this program, the system shall be treated as though it was never decertified.

    7.9.4.2. *Denial of Appeal*. If a Manufacturer's appeal is denied in whole or in part, the decertification decision of the Decision Authority shall be upheld. Therefore, the voting system shall remain decertified and no additional appeal shall be made available.

7.10. **Effect of Decertification**. A decertified voting system no longer holds an EAC certification under the EAC Certification Program. For purposes of this Manual and the program, a decertified system will be treated as any other uncertified voting system. As such, the effects of Decertification are as follows:

7.10.1. The Manufacturer may not represent the voting system as certified.

7.10.2. The voting system may not be labeled with a Mark of Certification.

7.10.3. The voting system will be removed from the EAC's list of certified systems.

7.10.4. The EAC will notify State and local election officials of the Decertification.

7.11. **Recertification**. A decertified system may be resubmitted for certification. Such systems shall be treated as any other system seeking certification. The Manufacturer shall present an application for certification consistent with the instructions of this Manual.

8. Quality Monitoring Program

8.1. Overview. The quality of any product, including a voting system, depends on two specific elements: (1) the design of the product or system; and (2) the consistency of the manufacturing process. The EAC's testing and certification process focuses on voting system design by ensuring that a representative sample of a system meets the technical specifications of the applicable EAC voting system standards. This process, commonly called 'type acceptance,' determines whether the representative sample submitted for testing meets the standards. What type acceptance does not do is explore whether variations in manufacturing may allow production of non-compliant systems. Generally, the quality of the manufacturing is the responsibility of the Manufacturer. After a system is certified, the vendor assumes primary responsibility for compliance of the products produced. This level of compliance is accomplished by the Manufacturer's configuration management and quality control processes. The EAC's Quality Monitoring Program, as outlined in this chapter, however, provides an additional layer of quality control by allowing the EAC to perform manufacturing site reviews, carry out fielded system reviews, and gather information on voting system anomalies from election officials. These additional tools help ensure that voting systems continue to meet the EAC's voting system standards as the systems are manufactured, delivered, and used in Federal elections. These aspects of the program enable the EAC to independently monitor the continued compliance of fielded voting systems.

8.2. Purpose. The purpose of the Quality Monitoring Program is to ensure systems used by election jurisdictions are identical to those tested and certified by the EAC as well as to monitor the completeness and adequacy of testing with the desired performance in fielded voting systems. This level of quality control is accomplished primarily by identifying (1) potential quality problems in manufacturing, (2) uncertified voting system configurations, and (3) field performance issues with certified systems.

8.3. Manufacturer's Quality Control. The EAC's Quality Monitoring Program shall not be considered a substitute for the Manufacturer's own quality control program. As stated in Chapter 2 of this Manual, all Manufacturers must have an acceptable quality control program in place before they may be registered. The EAC's program serves as an independent and complementary process of quality control that works in tandem with the Manufacturer's efforts.

8.4. Quality Monitoring Methodology. Provides the EAC with four primary tools for assessing the level of effectiveness of the certification process and the compliance of fielded voting systems, which includes: (1) manufacturing site reviews; (2) fielded system reviews; (3) a means for receiving anomaly reports from the field; and (4) technical bulletins or product advisories created by the manufacturer.

8.5. Manufacturing Site Review. Facilities that produce certified voting systems will be reviewed periodically, at the discretion of the EAC, to verify that the system being manufactured,

shipped, and sold is the same as the certified system. All registered Manufacturers must cooperate with such site reviews as a condition of program participation.

8.5.1.<u>Notice</u>. The site review may be conducted as either a pre-scheduled or as an impromptu visit, at the discretion of the EAC; however a Manufacturer will be given at least 24 hours notice. Scheduling and notice of site reviews will be coordinated with, and provided to, the manufacturing facility's representative and the Manufacturer's representative.

8.5.2.<u>Frequency</u>. At a minimum, at least one manufacturing facility of a registered Manufacturer shall be subject to a site review at least once every 4 years.

8.5.3.<u>The Review</u>. The production facility and production test records must be made available for review. When requested, production schedules must be provided to the EAC. Production or production testing may be witnessed by EAC representatives. If equipment is not being produced during the inspection, the review may be limited to production records. During the inspection, the Manufacturer must make available to the EAC's representative the Manufacturer's quality manual and other documentation sufficient to enable the representative to evaluate the following factors of the facility's production:

8.5.3.1. Manufacturing quality controls.

8.5.3.2. Final inspection and testing.

8.5.3.3. History of deficiencies or anomalies and corrective actions taken.

8.5.3.4. Equipment calibration and maintenance.

8.5.3.5. Corrective action program.

8.5.3.6. Policies on product labeling and the application of the EAC mark of certification.

8.5.4.<u>Exit Briefing</u>. EAC representatives will provide the manufacturing facility's representative with a verbal exit briefing regarding the preliminary observations of the review.

8.5.5.<u>Written Report</u>. A written report documenting the review will be drafted by the EAC and provided to the Manufacturer. The report will detail the findings of the review and identify actions that are required to correct any identified deficiencies.

8.6. Fielded System Review and Testing. Upon invitation, or with the permission of a State or local election authority, the EAC may, at its discretion, conduct a review of fielded voting systems. Such reviews will be conducted to ensure that a fielded system is comprised of the same configuration as what was certified by the EAC and that the proper Mark of Certification

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has been applied. This review may include the testing of a fielded system, if deemed necessary. Any anomalies found during this review will be provided to the appropriate election jurisdiction(s) and the Manufacturer. In addition, this review will evaluate the correspondence of the actual configuration and use of the voting system in the field with that envisioned during testing. If anomalies occur, these reviews seek to determine the direct cause, underlying root cause and appropriate remedial and/or preventative actions.

8.7. Field Anomaly Reporting. The EAC will collect information from election officials with fielded EAC-certified voting systems. Information on the actual field performance of a voting system shall be used as a means for assessing the effectiveness of the Certification Program and the manufacturing quality and version control. The EAC will provide a mechanism for election officials to provide input related to voting system anomalies.

8.7.1. <u>Anomaly Report</u>. Election officials may submit notices of voting system anomalies directly to the EAC in either WORD or .pdf format consistent with the requirements in Section 8.7.3 below.

8.7.2. <u>Who May Report</u>? State or local election officials who have experienced voting system anomalies in their jurisdiction may file anomaly reports. The individuals reporting must identify themselves and have firsthand knowledge of or official responsibility over the anomaly being reported. Anonymous or hearsay reporting will not be accepted.

8.7.3. <u>What Is Reported</u>? Election officials shall report voting system anomalies. An *anomaly* is defined as an irregular or inconsistent action or response from the voting system, or system component, which resulted in the system or component not functioning as intended or expected. Anomalies resulting from administrator error or procedural deficiencies shall not be considered anomalies for purposes under this chapter. The report shall include:

8.7.3.1. The official's name, title, contact information, and jurisdiction.

8.7.3.2. A description of the voting system that experienced the anomaly.

8.7.3.3. The date and location of the reported occurrence.

8.7.3.4. The type of election.

8.7.3.5. A description of the anomaly witnessed with applicable supporting documentation, if available.

8.7.4. <u>Distribution of Reports</u>. Reports which are deemed to contain credible information will be distributed to State and local election jurisdictions with similar systems, to the Manufacturer of the voting system, and to the VSTLs. Reports are deemed credible if:

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> 8.7.4.1. The definition of an anomaly under Section 8.7.3 was met;
>
> 8.7.4.2. A complete report, per the requirements of Sections 8.7.3.1 – 8.7.3.5 was submitted;
>
> 8.7.4.3. Information contained within the report was confirmed by others present at the time of the anomaly; and
>
> 8.7.4.4. Was verified by the relevant state's chief election official.

8.8. Manufacturer Created Technical Bulletins or Product Advisories. Manufacturers are required to 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.

8.9. Use of Quality Monitoring Information. Ultimately, the information the EAC gathers from manufacturing site reviews, fielded system reviews, and field anomaly reports will be used to improve the program and ensure the quality of voting systems. The Quality Monitoring Program is not designed to be punitive but to be focused on improving the process. Information gathered will be used to accomplish the following:

8.9.1. Identify areas for improvement in the EAC's Testing and Certification Program.

8.9.2. Improve the manufacturing quality and change control processes.

8.9.3. Increase voter confidence in voting technology.

8.9.4. Inform Manufacturers, election officials, and the EAC of issues associated with voting systems in a real-world environment.

8.9.5. Share information among jurisdictions that use similar voting systems.

8.9.6. Resolve problems associated with voting technology or manufacturing in a timely manner by involving Manufacturers, election officials, and the EAC.

8.9.7. Strengthen the coordination between certification testing and the desired performance in deployed voting systems.

8.9.8. Provide feedback to the EAC, National Institute of Standards and Technology (NIST), and the Technical Guidelines Development Committee (TGDC) regarding issues that may need to be addressed through a revision to the Voluntary Voting System Guidelines.

8.9.9. Initiate an investigation when information suggests Decertification is warranted (see Chapter 7).

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9. Requests for Interpretations

9.1. Overview. A Request for Interpretation is a means by which a registered Manufacturer or VSTL may seek clarification on a specific EAC voting system standard. An Interpretation is a clarification of the voting system standards and guidance on how to properly evaluate conformance to it. Suggestions or requests for modifications to the standards are provided by other processes. This chapter outlines the policy, requirements, and procedures for submitting a Request for Interpretation.

9.2. Policy. Registered Manufacturers or VSTLs may request the EAC to provide definitive Interpretation of EAC-accepted voting system standards when, in the course of developing or testing a voting system, the meaning of a particular standard becomes ambiguous or unclear. The EAC may self-initiate such a request when it agents identifies a need for interpretation within the program. An Interpretation issued by the EAC will serve to clarify what a given standard requires and how to properly evaluate compliance. An Interpretation does not amend voting system standards, but serves only to clarify existing standards.

9.3. Requirements for Submitting a Request for Interpretation. An EAC Interpretation is limited in scope. The purpose of the Interpretation process is to provide Manufacturers or VSTLs, in the process of developing or testing a voting system a means for resolving the meaning of a VVSG requirement. A Request for Interpretation must: (1) be submitted by a registered manufacturer or VSTL; (2) request interpretation of an applicable VVSG requirement; (3) present an actual controversy; and (4) seek clarification on a matter of unsettled ambiguity.

9.3.1. <u>Proper Requestor</u>. A Request for Interpretation may be submitted only by a registered Manufacturer or a VSTL. Requests for Interpretation will not be accepted from any other parties.

9.3.2. <u>Applicable Standard</u>. A Request for Interpretation is limited to queries regarding requirements contained in EAC VVSG. A Manufacturer or VSTL may only submit a Request for Interpretation on a version of EAC VVSG to which the EAC currently offers certification.

9.3.3. <u>Existing Factual Controversy</u>. To submit a Request for Interpretation, a Manufacturer or VSTL must present a question relative to a specific voting system or technology proposed for use in a voting system. A Request for Interpretation on hypothetical issues will not be addressed by the EAC. To submit a Request for Interpretation, the need for clarification must have arisen during the development or testing of a voting system. A factual controversy exists when an attempt to apply a specific section of the VVSG to a specific system or piece of technology creates ambiguity.

9.3.4. <u>Unsettled, Ambiguous Matter</u>. Requests for Interpretation must involve actual controversies that have not been previously clarified.

9.3.4.1. *Actual Ambiguity*. A proper Request for Interpretation must contain an actual ambiguity. The interpretation process is not a means for challenging a clear VVSG requirement or to recommend changes to requirements. An ambiguity arises (in applying a voting system standard to a specific technology) when one of the following occurs:

9.3.4.1.1.   The language of the standard is unclear on its face.

9.3.4.1.2.   One section of the standard seems to contradict another, relevant section.

9.3.4.1.3.   The language of the standard, though clear on its face, lacks sufficient detail or breadth to determine its proper application to a particular technology.

9.3.4.1.4.   The language of a particular standard, when applied to a specific technology, conflicts with the established purpose or intent of the standard.

9.3.4.1.5.   The language of the standard is clear, but the proper means to assess compliance is unclear.

9.3.4.2. *Not Previously Clarified*. The EAC will not accept a Request for Interpretation when the issue has previously been clarified.

9.4. Procedure for Submitting a Request for Interpretation. A Request for Interpretation shall be made in writing to the Program Director. EAC interpretations are based upon, and limited to, the facts presented; therefore all requests should be complete and as detailed as possible. . Failure to provide complete information may result in an Interpretation that is non-applicable and ultimately immaterial to the issue at hand. The following shall be included in a Request for Interpretation:

9.4.1. Establish Standing To Make the Request. To make a request, one must meet the requirements identified in Section 9.3. Thus, the written request must provide sufficient information for the Program Director to conclude that the requestor is: (1) a proper requester; (2) requesting an Interpretation of an applicable voting system standard; (3) presenting an actual factual controversy; and (4) seeking clarification on a matter of unsettled ambiguity.

9.4.2. Identify the EAC VVSG Requirement To Be Clarified. The request must identify the specific VVSG requirement or requirement(s) to which the requestor seeks clarification. The request

must state the version of the voting system standards at issue (if applicable) and quote and correctly cite the applicable requirement(s).

9.4.3. <u>State the Facts Resulting in Ambiguity</u>. The request must provide the facts associated with the voting system technology that resulted in the ambiguity. The requestor must provide all necessary information in a clear, concise manner. Any Interpretation issued by the EAC will be based on the facts provided.

9.4.4. <u>Identify the Ambiguity</u>. The request must identify the ambiguity it seeks to resolve and shall:

9.4.4.1. Clearly state a concise question.

9.4.4.2. Be related to, and reference, the voting system standard and voting system technology.

9.4.4.3. Be limited to a single issue. Each question or issue arising from an ambiguous requirement must be stated separately. Compound questions are unacceptable. If multiple issues exist, they should be presented as individual, numbered questions.

9.4.4.4. Be stated in a way that can ultimately be answered *yes* or *no*.

9.4.5. <u>Provide a Proposed Interpretation</u>. A Request for Interpretation should propose an answer to the question posed. The answer should interpret the voting system standard in the context of the facts presented and it should provide the basis and reasoning behind the proposed interpretation.

9.5. EAC Action on a Request for Interpretation. Upon receipt of a Request for Interpretation, the EAC shall:

9.5.1. <u>Review the Request</u>. The Program Director shall review the request to ensure it is complete, clear, and meets the requirements of Section 9.3. Upon review, the Program Director may:

9.5.1.1. *Request Clarification*. If the Request for Interpretation is incomplete, or additional information is otherwise required, the Program Director may request the Manufacturer or VSTL clarify its Request for Interpretation and identify any additional information required.

9.5.1.2. *Reject the Request for Interpretation*. If the Request for Interpretation does not meet the requirements of Section 9.3, the Program Director may reject it. Such rejection must be provided in writing to the Manufacturer or VSTL and must state the basis for the rejection.

9.5.1.3. *Notify Acceptance of the Request*. If the Request for Interpretation is accepted, the Program Director will notify the Manufacturer or VSTL in writing and provide it with an estimated date of completion. A Request for Interpretation may be accepted in whole or in part and the notice of acceptance shall state the issues accepted for interpretation.

9.5.2. Consideration of the Request. After a Request for Interpretation has been accepted, the matter shall be analyzed and researched. Such action may require the EAC to employ technical experts and may also require the EAC to request additional information from the Manufacturer or VSTL. The Manufacturer or VSTL shall respond promptly to such requests.

9.5.3. Interpretation. The Program Director shall be responsible for making determinations on a Request for Interpretation. After this determination has been made, a written Interpretation shall be sent to the Manufacturer or VSTL. The following actions shall be included in the Interpretation:

9.5.3.1. The question or questions investigated.

9.5.3.2. The relevant facts that served as the basis of the Interpretation.

9.5.3.3. The voting system standards interpreted.

9.5.3.4. The conclusion reached.

9.5.3.5. The effect of an Interpretation (see Section 9.6).

9.6. Effect of Interpretation. Interpretations are fact specific and case specific. They are not tools of policy, but specific, fact-based guidance useful for resolving a particular problem. Ultimately, an Interpretation is determinative and conclusive only with regard to the case presented. Nevertheless, Interpretations do have some value as precedent. Interpretations published by the EAC shall serve as reliable guidance and authority over identical or similar questions of interpretation. These Interpretations will help users understand and apply the individual requirements of EAC VVSG.

9.7. Library of Interpretations. To better serve Manufacturers, VSTLs and those interested in the EAC's voting system standards, the Program Director shall publish EAC Interpretations. All proprietary information contained in an Interpretation will be redacted before publication consistent with Chapter 10 of this Manual. The library of published Interpretations is posted on the EAC's website: www.eac.gov.

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10.   Release of Certification Program Information

10.1.   Overview. Manufacturers participating in the Certification Program will be required to provide the EAC with a variety of documents. In general, these documents will be releasable to the public and, in many cases, the information provided will be affirmatively published by the EAC. In limited cases, however, documents may not be released if they include trade secrets, confidential commercial information, or personal information. While the EAC is ultimately responsible for determining which documents Federal law protects from release, Manufacturers must identify the information they believe is protected and ultimately provide substantiation and a legal basis for withholding. This chapter discusses the EAC's general policy on the release of information and provides Manufacturers with standards, procedures, and requirements for identifying documents as trade secrets or confidential commercial information.

10.2.   EAC Policy on the Release of Certification Program Information. The EAC seeks to make its Voting System Testing and Certification Program as transparent as possible. The agency believes such action benefits the program by increasing public confidence in the process and creating a more informed and involved public. As such, it is the policy of the EAC to make all documents, or severable portions thereof, available to the public consistent with Federal law (e.g. Freedom of Information Act (FOIA) and the Trade Secrets Act).

10.2.1. <u>Requests for Information</u>. As in any Federal program, members of the public may request access to Certification Program documents under FOIA (5 U.S.C. §552). The EAC will promptly process such requests per the requirements of the Act.

10.2.2. <u>Publication of Documents</u>. Beyond the requirements of FOIA, the EAC intends to affirmatively publish program documents (or portions of documents) it believes will be of interest to the public. This publication will be accomplished through the use of the EAC's website (<u>www.eac.gov</u>). The published documents will cover the full spectrum of the program, including information pertaining to:

       10.2.2.1.   Registered Manufacturers;

       10.2.2.2.   VSTL Test Plans;

       10.2.2.3.   VSTL Test Reports;

       10.2.2.4.   Agency decisions;

       10.2.2.5.   Denials of Certification;

       10.2.2.6.   Issuance of Certifications;

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   10.2.2.7. Information on a certified voting system's operation, components, features or capabilities;

   10.2.2.8. Appeals;

   10.2.2.9. Reports of investigation and Notice of Non-compliance;

   10.2.2.10. Decertification actions;

   10.2.2.11. Manufacturing facility review reports;

   10.2.2.12. Official Interpretations (VVSG); and

   10.2.2.13. Other topics as determined by the EAC.

 10.2.3. <u>Trade Secret and Confidential Commercial Information</u>. Federal law places a number of restrictions on a Federal agency's authority to release information to the public. Two such restrictions are particularly relevant to the Certification program: (1) trade secrets information; and (2) privileged or confidential commercial information. Both types of information are explicitly prohibited from release by the FOIA and the Trade Secrets Act (18 U.S.C. §1905).

10.3. **Trade Secrets**. A secret, commercially valuable plan, process, or device used for the making or processing of a product and that is the end result of either innovation or substantial effort. It relates to the productive process itself, describing how a product is made. It does not relate to information describing end product capabilities, features, or performance.

 10.3.1. The following examples illustrate productive processes that may be trade secrets:

   10.3.1.1. Plans, schematics, and other drawings useful in production.

   10.3.1.2. Specifications of materials used in production.

   10.3.1.3. Voting system source code used to develop or manufacture software where release would reveal actual programming.

   10.3.1.4. Technical descriptions of manufacturing processes and other secret information relating directly to the production process.

 10.3.2. The following examples are likely not trade secrets:

   10.3.2.1. Information pertaining to a finished product's capabilities or features.

10.3.2.2.   Information pertaining to a finished product's performance.

10.3.2.3.   Information regarding product components that would not reveal any commercially valuable information regarding production.

10.4.   Privileged or Confidential Commercial Information. Privileged or confidential commercial information is information submitted by a Manufacturer that is *commercial or financial* in nature and *privileged or confidential*.

10.4.1. *Commercial or Financial Information*. The terms *commercial* and *financial* should be given their ordinary meanings. They include records in which a submitting Manufacturer has any *commercial interest.*

10.4.2. *Privileged or Confidential Information*. Commercial or financial information is privileged or confidential if its disclosure would likely cause substantial harm to the competitive position of the submitter. The concept of harm to one's competitive position focuses on harm flowing from a competitor's affirmative use of the proprietary information. It does not include incidental harm associated with upset customers or employees.

10.5.   EAC's Responsibilities. The EAC is ultimately responsible for determining whether or not a document (in whole or in part) may be released pursuant to Federal law. In doing so, however, the EAC will require information and input from the Manufacturer submitting the documents. This requirement is essential for the EAC to identify, track, and make determinations on the large volume of documentation it receives. The EAC has the following responsibilities:

10.5.1. <u>Managing Documentation and Information</u>. The EAC will control the documentation it receives by ensuring that documents are secure and released to third parties only after the appropriate review and determination.

10.5.2. <u>Contacting Manufacturer on Proposed Release of Potentially Protected Documents</u>. In the event a member of the public submits a FOIA request for documents provided by a Manufacturer or the EAC otherwise proposes the release of such documents, the EAC will take the following action:

10.5.2.1.   Review the documents to determine if they are potentially protected from release as trade secrets or confidential commercial information. The documents at issue may have been previously identified as protected by the Manufacturer when submitted (see Section 10.7.1 below) or identified by the EAC on review.

10.5.2.2.   Grant the submitting Manufacturer an opportunity to provide input. In the event the information has been identified as potentially protected from release as a trade secret or confidential commercial information, the EAC will notify the

submitter and allow them an opportunity to submit their position on the issue prior to release of the information. The submitter shall respond consistent with Section 10.7.1 below.

10.5.3. <u>Final Determination on Release</u>. After providing the submitter of the information an opportunity to be heard, the EAC will make a final decision on release. The EAC will inform the submitter of this decision.

10.6. **Manufacturer's Responsibilities.** Although the EAC is ultimately responsible for determining if a document, or any portion thereof, is protected from release as a trade secret or confidential commercial information, the Manufacturer shall be responsible for identifying documents, or portions of documents, it believes warrant such protection. Moreover, the Manufacturer will be responsible for providing the legal basis and substantiation for their determination regarding the withholding of a document. This responsibility arises in two situations: (1) upon the initial submission of information; and (2) upon notification by the EAC that it is considering the release of potentially protected information.

10.6.1. <u>Initial Submission of Information</u>. When a Manufacturer submits documents to the EAC as required by the Certification Program, it is responsible for identifying any document or portion of a document that it believes is protected from release by Federal law. Manufacturers shall identify protected information by the following:

10.6.1.1. *Submitting a Notice of Protected Information*. This notice shall identify the document, document page, or portion of a page that the Manufacturer believes should be protected from release. This identification must be done with specificity. For each piece of information identified, the Manufacturer must state the legal basis for its protected status.

10.6.1.1.1. Cite the applicable law that exempts the information from release.

10.6.1.1.2. Clearly discuss why that legal authority applies and why the document must be protected from release.

10.6.1.1.3. If necessary, provide additional documentation or information. For example, if the Manufacturer claims a document contains confidential commercial information, it would also have to provide evidence and analysis of the competitive harm that would result upon release.

10.6.1.2. *Label Submissions*. Label all submissions identified in the notice as "Proprietary Commercial Information." Label only those submissions identified as protected. Attempts to indiscriminately label all materials as proprietary will render the markings moot.

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10.6.2. <u>Notification of Potential Release</u>. In the event a Manufacturer is notified that the EAC is considering the release of information that may be protected, the Manufacturer shall:

   10.6.2.1.   Respond to the notice within 15 calendar days. If additional time is needed, the Manufacturer must promptly notify the Program Director. Requests for additional time will be granted only for good cause and must be made before the 15-day deadline. Manufacturers that do not respond in a timely manner will be viewed as not objecting to release.

   10.6.2.2.   Clearly state **one** of the following in the response:

      10.6.2.2.1. There is no objection to release; OR

      10.6.2.2.2. The Manufacturer objects to release. In this case, the response must clearly state which portions of the document the Manufacturer believes should be protected from release. The Manufacturer shall follow the procedures discussed in Section 10.7.1.

10.7.   Personal Information. Certain personal information is protected from release under FOIA and the Privacy Act (5 U.S.C. §552a). This information includes private information about a person that, if released, would cause the individual embarrassment or constitute an unwarranted invasion of personal privacy. Generally, the EAC will not require the submission of private, individual information and the incidental submission of such information should be avoided. If a Manufacturer believes it is required to submit such information, it should contact the Program Director. If the information will be submitted, it must be properly identified. Examples of such information include:

10.7.1. Social Security Number.

10.7.2. Bank account numbers.

10.7.3. Home address.

10.7.4. Home phone number.

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Appendix A

Manufacturer Registration Application Form

Available in electronic format at <u>www.eac.gov</u>

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Appendix B

Application for Voting System Testing Form

Available in electronic format at www.eac.gov

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Appendix C

Voting System Test Plan Outline

This outline is provided solely as an aid to test plan development. Note that these items may change significantly, depending on the specific project planned.

1 Introduction
    1.1 References
    1.2 Terms and Abbreviations
    1.3 Testing Responsibilities
        1.3.1 Project schedule with
            1.3.1.1 Owner assignments
            1.3.1.2 Test case development
            1.3.1.3 Test procedure development and validation
            1.3.1.4 3rd party tests
            1.3.1.5 EAC and Manufacturer dependencies
    1.4 Target of Evaluation Description
        1.4.1 System Overview
        1.4.2 Block diagram
        1.4.3 System Limits
        1.4.4 Supported Languages
        1.4.5 Supported Functionality
            1.4.5.1 Standard VVSG Functionality
            1.4.5.2 Manufacturer Extensions

2. Pre-Certification Testing and Issues
    2.1 Evaluation of prior VSTL testing
        2.1.1 Reason for testing and results, listing of modifications from previous to current system
    2.2 Evaluation of prior non-VSTL testing
        2.2.1 Reason for testing and results, states, other 3rd party entities
    2.3 Known Field Issues
        2.3.1 Listing of relevant issues uncovered during field operations

3 Materials Required for Testing
    3.1 Software
    3.2 Equipment
    3.3 Test Materials
    3.4 Deliverable Materials
4 Test Specifications
    4.1 Requirements
        4.1.1 Mapping of requirements to equipment type and features
        4.1.2 Rationale for why some requirements are NA for this campaign
    4.2 Hardware Configuration and Design

Proprietary Data

Appendix D

Voting System Modification Test Plan Outline

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Test Plans submitted for modifications to previously EAC certified voting systems should be brief and structured to minimize test plan development and review, while enabling the EAC to maintain solid control of the certification process. The test plan shall *concisely* document the strategy and plan for testing those sections of the VVSG applicable to the modification or modifications submitted. The test plan shall be written with clarity that will allow all constituents to understand what testing will be conducted, to verify compliance to VVSG requirements, and to assure that the test plan will remain a living document throughout the life of the test campaign for the modification.

This outline is provided solely as an aid to test plan development. Note that these items may change significantly, depending on the specific project planned.

1. Introduction
    1.1 Description and Overview of EAC certified system being modified
        1.1.1 Complete definition of the baseline certified system.
        1.1.2 Detailed description of the engineering changes and/or modifications to the certified system and why the modification was implemented.
        1.1.3 An initial assessment of the impact that the modifications have on the system and past certification.
        1.1.4 Description of what will be regression tested to establish assurance that the modifications have no adverse impact on the compliance, integrity or performance of the system.
    1.2 References
    1.3 Terms and Abbreviations
    1.4 Project Schedule
    1.5 Scope of testing
        1.5.1 Block diagram (if applicable)
        1.5.2 System limits (if applicable)
        1.5.3 Supported Languages
        1.5.4 Supported Functionality
        1.5.5 VVSG
        1.5.6 RFIs
        1.5.7 NOCs

2. Pre-Certification Testing and Issues
    2.1 Evaluation of prior VSTL testing
    2.2 Evaluation of prior non-VSTL testing (if applicable)
    2.3 Known Field Issues (if applicable)

3. Materials Required for Testing
    3.1 Software
    3.2 Equipment

3.3 Test Materials
3.4 Deliverable
3.5 Proprietary Data

4. Test Specifications
    4.1 Requirements
        4.1.1 Mapping of requirements to equipment type and features
        4.1.2 Rationale for why some requirements are NA for this campaign
    4.2 Hardware Configuration and Design (if applicable)
    4.3 Software System Functions (if applicable)
    4.4 Test Case Design
        4.4.1 Hardware Qualitative Examination Design (if applicable)
        4.4.2 Hardware Environmental Test Case Design (if applicable)
        4.4.3 Software Module Test Case Design and Data (if applicable)
        4.4.4 Software Functional Test Case Design and Data (if applicable)
        4.4.5 System-level Test Case Design
    4.5 Security functions (if applicable)
    4.6 TDP evaluation
    4.7 Source Code review (if applicable)
    4.8 QA & CM system review

5. Test Data
    5.1 Test Data Recording
    5.2 Test Data Criteria

6. Test Procedure and Conditions
    6.1 Test Facilities
    6.2 Test Set-up
    6.3 Test Sequence
    6.4 Test Operations Procedure

Appendix E

Voting System Test Report Outline

Test Reports produced by VSTLs shall follow the format outlined below. Deviations from this format may be used upon prior written approval of the Program Director.

1. System Identification and Overview
2. Certification Test Background
    2.1 Revision History
    2.2 Implementation Statement
3. Test Findings and Recommendation
    3.1 Summary Finding and Recommendation
    3.2 Reasons for Recommendation to Reject
    3.3 Anomalies
    3.4 Correction of Deficiencies
Appendix A. Additional Findings
Appendix B. Warrant of Accepting Change Control Responsibility
Appendix C. Trusted Build
Appendix D. Test Plan
Appendix E. State Test Reports

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Appendix F

Voting System Modification Test Report Outline

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Test Reports produced by VSTLs shall follow the format outlined below. Deviations from this format may be used upon prior written approval of the Program Director.

1. Introduction
    1.1Description of EAC certified system being modified
    1.1 References
    1.2 Terms and Abbreviations

2. Certification Test Background
    2.1 Revision History
    2.2 Scope of testing
        2.2.1 Modification Overview
            2.2.1.1 Detailed list of changes
        2.2.2 Block diagram (if applicable)
        2.2.3 Supported Languages
            2.2.4 VVSG
            2.2.5 RFIs
            2.2.6 NOCs

3. Test Findings and Recommendation
    3.1 Summary Finding and Recommendation
        3.1.1 Hardware Testing
        3.1.2 System Level Testing
        3.1.3 Source code review
    3.2 Anomalies and Resolutions
    3.3 Deficiencies and Resolutions

4. Recommendation for Certification

Appendix A. Additional Findings
Appendix B. Deficiency report (if applicable)
Appendix C. Anomaly report (if applicable)
Appendix D. Test Plan
Appendix E. State Test Reports (if applicable)

Exhibit 2

U.S. Election Assistance Commission

Voting System Testing and Certification Program

1335 East West Highway, Suite 4300

Silver Spring, MD. 20910

Notice of Clarification

NOC 19-01: Software De Minimis Changes
Issued by Program Director, November 15, 2019

Section of Certification Manual to Be Clarified:

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3.4.2   <u>De Minimis Change - Defined</u>. A de minimis change is a change to a certified voting system's hardware, software, TDP, or data, the nature of which will not materially alter the system's reliability, functionality, capability, or operation. Under no circumstances shall a change be considered de minimis if it has reasonable and identifiable potential to impact the system's performance and compliance with the applicable voting Standard.

3.4.3   <u>De Minimis Change – Procedure</u>. Manufacturers who wish to implement a proposed de minimis change must submit it for VSTL review and endorsement and EAC approval. A proposed de minimis change may not be implemented as such until it has been approved in writing by the EAC.

3.4.3.1 <u>VSTL Review</u>. Manufacturers must submit any proposed de minimis change to a VSTL and the EAC for review and endorsement. The Manufacturer will provide the VSTL: (1) a detailed description of the change; (2) a description of the facts giving rise to or necessitating the change; (3) the basis for its determination that the change will not alter the system's reliability, functionality, or operation; (4) upon request of the VSTL, a sample voting system at issue or any relevant technical information needed to make the determination; (5) document any potential impact to election officials currently using the system and any required notifications to those officials; (6) a description of how this change will impact any relevant system documentation; and (7) any other information the EAC or VSTL needs to make a determination. The VSTL will review the proposed de minimis change and make an independent determination as to whether the change meets the definition of de minimis change or requires the voting system to undergo additional testing as a system modification. If the VSTL determines that a de minimis change is appropriate, it shall endorse the proposed change as a de minimis change. If the VSTL determines that modification testing and certification should be performed, it shall reclassify the proposed change as a modification. Endorsed de minimis changes shall be forwarded to the Voting System's Project Manager for final approval. Rejected changes shall be returned to the Manufacturer for resubmission as

system modifications.

3.4.3.2 <u>VSTL Endorsed Changes</u>. The VSTL shall forward to the EAC any change it has endorsed as de minimis. The VSTL shall forward its endorsement in a package that includes:

3.4.3.2.1   The manufacturer's initial description of the de minimis change, a narrative of facts giving rise to, or necessitating, the change, and the determination that the change will not alter the system's reliability, functionality, or operation.

3.4.3.2.2   The written determination of the VSTL's endorsement of the de minimis change. The endorsement document must explain why the VSTL, in its engineering judgment, determined that the proposed de minimis change met the definition in this section and otherwise does not require additional testing and certification.

3.4.3.3 <u>EAC Action</u>. The EAC will review all proposed de minimis changes endorsed by a VSTL. The EAC has sole authority to determine whether any VSTL endorsed change constitutes a de minimis change under this section. The EAC will inform the Manufacturer and VSTL of its determination in writing.

3.4.3.3.1   If the EAC approves the change as a de minimis change, it shall provide written notice to the Manufacturer and VSTL. The EAC will maintain copies of all approved de minimis changes and otherwise track such changes.

3.4.3.3.2   If the EAC determines that a proposed de minimis change cannot be approved, it will inform the VSTL and Manufacturer of its decision. The proposed change will be considered a modification and require testing and certification consistent with this Manual. De minimis changes cannot be made to voting systems currently undergoing testing; these changes are merely changes to an uncertified system and may require an Application update.

Purpose:

The de minimis change process is used by the EAC to allow minor modifications to a certified voting system. In the past, this has been applied primarily to hardware changes as software changes often require a new version and build. Additionally, past practice has been that if a de minimis change required VSTL testing, it was classified as a system modification.

Clarification:

The EAC has determined that allowing software de minimis changes is necessary to confront a rapidly evolving cybersecurity threat environment as well as allowing Manufacturers to quickly respond to changing jurisdictional requirements, where those requirements can be addressed with minor changes.

Software de minimis changes should have the following general characteristics:

1. Update a discrete component of the system and do not impact overall system functionality;

2. Do not modify the counting or tally logic of a component or the system (formatting changes to reports are allowable);

3. Do not affect the accuracy of the component or system;

4. Do not negatively impact the functionality, performance, accessibility, usability, safety, or security of a component or system;

5. Do not alter the overall configuration of the certified system (e.g. adding ballot marking device functionality to a previously certified DRE component);

6. Can be reviewed and/or tested by VSTL personnel in a short amount of time (approximately less than 100 hours).

Conclusion:

As of the date of this Clarification, the EAC will consider software de minimis changes submitted in accordance with the Testing and Certification Program Manual, Version 2.0 with the following clarifications:

Section 3.4.3.2.2 will be interpreted as allowing minimal VSTL testing as deemed necessary to confirm the change (approximately less than 100 hours).

Section 3.4.3.2.3 will be **added**:

3.4.3.2.3   The validated hashes, trusted builds, and version listing for all software modules changed.

Exhibit 3

From: Samantha Whitley <cgganalyst2@gmail.com>
Sent: Monday, October 5, 2020 1:05 PM
To: Shea Hicks <shicks@gordoncounty.org>; Denise Maddox <maddox.denise2@gmail.com>; Coine-Mayers Kathleen <ckathleen@greenecountyga.gov>; Royston, Kristi <Kristi.Royston@gwinnettcounty.com>; Laurel Ellison <lellison@habershamga.com>; Ronald V. Gable <hcelections@bellsouth.net>; Sherrail Jarrett <sjarrett@harriscountyga.gov>; registrar@hartcountyga.org; Tonnie Adams <tadams@heardcountyga.com>; Debra Presswood <DPresswood@houstoncountyga.org>; Irwin County Elections <electionsirwincounty@aol.com>; Jennifer E. Logan <jelogan@jacksoncountygov.com>; Andrea Brown <jasperprobate@bellsouth.net>; Christy Riner <jeffdaviselections@gmail.com>; Susan Gray <sgray@jeffersoncountyga.gov>; Wanda Burke <probate8@gmail.com>; Debbie Killingsworth <dkillingsworth@johnsonco.org>; Marion Hatton <marion.hatton@jonescountyga.org>; elections laniercountyboc.com <elections@laniercountyboc.com>; Helen Harper <harperh@dlcga.com>; Veronica Johnson <vjohnson@lee.ga.us>; Ella Golden <ella.golden@libertycountyga.com>; Lilvender Bolton <lbolton@lincolncountyga.com>; Trynina Harris <longcountyelections@gmail.com>; elections@lowndescounty.com; elections@lumpkincounty.gov; tdean@mcelections.us; Marion County Elections & Registrations <marioncountyelect@gmail.com>; Phyllis Wheeler <Phyllis.Wheeler3@thomson-mcduffie.net>; Doll Gale <egale@darientel.net>; Patty Threadgill <p.threadgill@meriwethercountyga.gov>; Jerry C <registrars@millercountyga.com>; Terry Ross <tross@mitchellcountyga.net>; Kaye Warren <kwarren@monroecoga.org>
Subject: URGENT—Counties' improper installation of unauthorized uncertified BMD software

> **CAUTION:** This email originated from outside of Gwinnett County Government. Maintain caution when opening external links/attachments.

Dear Election Official,

Please ensure that all members of your county board of elections receive this email, if your county has an elections board.

We write you with grave concerns about the alarming improper changes that we believe that all counties are making to the BMD voting system at the direction of the Secretary of State. The changes being made, contrary to Georgia law, are very serious, unauthorized, and outside the parameters of anything we at Coalition for Good Governance are aware of ever being done in any state for any election. The seriousness of these actions cannot be overstated.

The Secretary of State does not have the authority to order the counties to install uncertified software, nor do the counties have the authority to do so under any circumstances.

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We urge your county's decision makers to use their authority under Georgia statutes (O.C.G.A. §21-2-281 and Election Rule 183-1-12-.11(2)(c)-(d)) to use the only legal, safe, secure and resilient system for the upcoming election—the use of hand marked paper ballots, counted on optical scanners with robust audits.

The change is not only the sole solution available to the counties for conducting the election in a legally compliant manner, but the only solution to conduct a defensible election that can withstand challenges from losing candidates. Continuing on the course of using the problem non-compliant BMD system seems almost certain to draw many legal challenges against the counties from losing candidates. The BMDs were always unreliable technology that undercut any chance of conducting an auditable election. However, the risk has been exponentially escalated with the last minute software changed, inaccurately minimized as simply a "database change" by the Secretary's office.

The very important details are in our letter to Fulton County linked below. We ask that you read the letter in detail and consider that all points apply to all 159 counties. We also ask that you forward the letter to your county attorney as well as all board members for their consideration.
Important legal details are in this letter to Fulton County: https://coaltionforgoodgovernance.sharefile.com/d-s22084941c724442b

We remind you that voting system components require all the following steps to be completed before you can use them in Georgia:
1. EAC submission, third party laboratory testing, EAC certification.
2. State certification agent testing to Georgia statutory requirements, and report to the SOS.
3. SOS certification of the software.
4. Acceptance testing by the county for each piece of equipment impacted.
5. Installation of the November 3 configuration and complete LAT as required by statute (not the shortcut procedures issued by the SOS.)

This is a multi-month process that should not be rushed in the matter of a week. This process is creating a high risk of unintended consequences and undetected errors. Your county cannot assume that such errors will be detected in LAT or even in early voting.

Recall that your county board was to certify 10 days before voting that the county is not using any uncertified components. (O.C.G.A. § 21-2-368(d)) **If your office is installing the SOS's new software, of course that certification cannot be made.**

As you are aware the county board of elections (superintendent) has the authority and responsibility to declare that the use of the BMD system is impossible, impracticable, or "unusable." When the use of the equipment is specifically counter to state laws regarding voting system certification and secret ballot protections, the county should certainly be finding it "impossible" and "impracticable" to use.

Because each polling place must sufficient emergency paper ballots during early voting and on election day, a switch to all paper ballots simply requires the printing of more ballots (or the use of ballot-on-demand printers), and reinforced training on the use of paper ballots for poll workers.

Please consider the information that we have included, and ask that your board or superintendent meet to make a decision on this matter.

We are happy to provide additional information if you would find it helpful

Best,

Marilyn Marks
Executive Director
Coalition for Good Governance
Marilyn@USCGG.org
704.292.9802

Samantha Whitley
Research Analyst
cgganalyst2@gmail.com

Exhibit 4

From: Samantha Whitley <cgganalyst2@gmail.com>
Sent: Wednesday, October 7, 2020 9:11 AM
To: elections@lowndescounty.com; elections@lumpkincounty.gov; tdean@mcelections.us; Marion County Elections & Registrations <marioncountyelect@gmail.com>; Phyllis Wheeler <Phyllis.Wheeler3@thomson-mcduffie.net>; Doll Gale <egale@darientel.net>; Patty Threadgill <p.threadgill@meriwethercountyga.gov>; Jerry C <registrars@millercountyga.com>; Terry Ross <tross@mitchellcountyga.net>; Kaye Warren <kwarren@monroecoga.org>; rmoxsand@hotmail.com; Jennifer Doran <jdoran@morgancountyga.gov>; vote@murraycountyga.gov; Nancy Boren <nboren@columbusga.org>; Angela Mantle <amantle@co.newton.ga.us>; Fran Leathers <fleathers@oconee.ga.us>; Steve McCannon <smccannon@oglethorpecountyga.gov>; Deidre Holden <deidre.holden@paulding.gov>; Adrienne Ray <adrienne-ray@peachcounty.net>; Julie Roberts <jroberts@pickenscountyga.gov>; Leah Williamson <leah.williamson@piercecountyga.gov>; Sandi Chamblin <schamblin@pikecoga.com>; Lee Ann George <lgeorge@polkga.org>; quit.judge@gqc-ga.org; twhitmire@rabuncounty.ga.gov; Todd Black <rcc.boe@gmail.com>; Lynn Bailey <lbailey@augustaga.gov>; cynthia.welch@rockdalecountyga.gov; Schley Registrars <registrars_schley@yahoo.com>
Subject: Followup - new unsealed documents and response to Harvey bulletin

Providing the Facts—BMD Security Risks and Software Update

The events of the last 11 days have made it clearer than ever that county election officials have the duty to abandon the county-wide use of BMD touchscreen machines and adopt hand marked paper ballots because the BMD units cannot be used securely or legally---certainly making their deployment "impossible," "impractical" or "unusable." [Those are the conditions in the statute and new election rule that call for the superintendent's decision to use hand marked paper ballots.] We offer more facts as your board makes this significant decision.

The 2020 General Election is underway, and last week the Secretary of State ordered election officials across the state to erase the original certified software from 34,000 Ballot Marking Devices and install new software, which was uncertified and untested.

Channel 11 in Atlanta featured the issue tonight. (https://youtu.be/IMJU2p4_LDM) We are aware that several other reporters are trying to get answers as well, without success.

Yesterday the Court unsealed critical information about the voting system changes, which is important for election officials to read. Meantime, the State is pressuring county officials to comply with their instructions, without considering the consequences.

On Monday Chris Harvey issued a bulletin titled*, "Be Wary of False and Misleading Information re: ICX Update"*

The extra capitalization probably tipped you off to be wary of what was to follow.

If you've read many of the Court documents in our Curling v. Raffensperger case, you'll be familiar with the pattern: Coalition for Good Governance presents testimony from the nation's most respected expert witnesses, evidence, science, law, and facts. State responds with hyperbole and unsubstantiated claims, and sometimes name-calling.

The State is attempting to force you into a difficult choice –to follow their orders, and trust that nothing goes wrong, or to use your authority do follow what the statutes and election rules require, risking retribution from the State Election Board. It comes down to this - use the un-auditable BMDs with altered software, or use ballots marked by pen for in-person voting.

The experts confirm that installing hastily written software on the eve of in-person voting is akin to redesigning an aspect of an airplane as it is about to take off.

Here's what's wrong with assertions made in the Monday's Bulletin from Chris Harvey:

Fact: EAC certification requires pre-approval of de minimis changes before they are implemented. The vendor declaring software error-correcting changes "de minimis" does not make it so. When you received the new software on Sept 30, with, instructions to immediately wipe your BMDs clean and install it, the test lab had NOT issued its report (dated Oct 2) and Dominion had not submitted the proposed "de minimis" change to the EAC. We can find no evidence that the proposed change has been submitted to the EAC for certification, despite the Secretary's commitment to the Court that it had been done.

Fact: the lab that tested the software change did not test to be sure it did not "cause any other issues with the operation of the ICX."

Fact: When you were asked to install the software on 9/30, the updated version of the ICX touchscreen software (version 5.5.10.32) was NOT certified by the Secretary of State. It was technically certified (but without conducting the mandated prerequisite tests) yesterday, October 5. This is risk for your voters and their candidates that the county boards simply cannot tolerate.

Fact: The Secretary made no mention that state law requires counties to conduct acceptance testing after installing modified software, and before installing the November programming and conducting LAT, leaving the counties to deal with the consequences of the failure to do so.

With regards to the shocking assertion that the Secretary of State helped draft an intended loophole in the law to make required EAC system certification meaningless – it boggles the imagination. He claims that while the General Assembly ordered that only EAC software be purchased, he can change it behind closed doors to do whatever he wants. The Secretary is shamelessly defending his "election security be damned" policies, despite the his disingenuous "Secure the Vote" logo.

Don't take our word for any of this. The transcript of the October 1 court conference was just unsealed, along with new declarations from experts Alex Halderman, Kevin Skoglund, and Harri Hursti, plus the Pro V&V test lab letter. We attached them for you to read the grave concerns of the nationally respected experts along with the transcript from the sealed proceedings. The State has been unable to engage experts who support their use of BMDs or this software. Instead they only have (often inaccurate) testimony from vendors.

The SOS wants you to bet your voters' ballots, and your counties' candidates' campaigns, on the high-risk notion that the software change solves the original problem, with no unintended consequences, including the introduction of more errors or malware. Also he wants you to bet that losing candidates won't challenge the election on the basis of the host of BMD risks, problems and legal non-compliance from ballot secrecy to failing software that may well hide its defects.

The experts are clear: if you use the altered BMDs, your elections will not be defensible.

The only sound choice is to draw a line in the sand and strictly comply with the law. The law holds the County Superintendent responsible for the conduct of elections. And when things go wrong, and the lawsuits come, the Secretary of State *will* blame the counties.

The November 2020 election is consequential. All eyes are on election administrators. And on Georgia. We urge you to put voters first, set aside the problematic BMDs, and use ballots marked by pen for in-person voting as authorized by O.C.G.A 21-2-281 and SEB Rule 183-1-12-.11(2)(c)-(d)—the only legal path before you for conducting an accountable and constitutionally compliant election.

As always, we are happy to hear from you to discuss this further.

Marilyn Marks

Executive Director

Coalition for Good Governance

Marilyn@USCGG.org

704 292 9802

--

Samantha Whitley

Research Analyst

Coalition for Good Governance

Cell: 704 763 8106

cgganalyst2@gmail.com

Exhibit A

OFFICIAL ELECTION BULLETIN

October 5, 2020

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TO: **County Election Officials and County Registrars**

FROM: **Chris Harvey, Elections Division Director**

RE: **Be Wary of False and Misleading Information re: ICX Update**

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You may have received correspondence today from activists for hand-marked paper ballots and their attorney. These activists have been suing the state and Georgia counties for years because they disagree with the decision of the Georgia General Assembly to use electronic ballot-marking devices instead of hand-marked paper ballots. Because their preferred policy was not enacted, they have tried to force their preferred policy on the state through litigation. The latest correspondence makes false and misleading allegations regarding the recent update to the ICX (touchscreen) component of Georgia's voting system.

As you know, an issue was discovered during Logic and Accuracy testing that, in certain rare circumstances, caused the second column of candidates in the U.S. Senate Special Election to not correctly display on the touchscreen. The issue was caught prior to any in-person voting due to excellent L&A testing by county election officials. Soon after the issue was brought to our attention, Dominion diagnosed the issue and began to work on a solution.

Dominion's solution required a *de minimis* software update to the touchscreen. That update was tested at Dominion, tested again at the state's EAC-certified test lab, and tested again at the Center for Election Systems to determine that it resolved the display issue and did not cause any other issues with the operation of the ICX. The state only distributed the update after verifying the test results with the EAC-certified test lab and acceptance testing the update at CES prior to distribution to counties. This is the normal process to follow for a state certification update. The updated version of the ICX touchscreen software (Version 5.5.10.32) has been certified by the Secretary of State as safe for use in Georgia's elections. You should continue to install the update as instructed

by CES. You should also confirm both the confidential hash value and the version number on each ICX BMD touchscreen during L&A testing.

The correspondence you may have received today also misstates Georgia law when it says that the update has to first be certified by the EAC. Georgia law required the *initial* system procured to be EAC certified, but it does not require that all updates first be certified by the EAC. The law was drafted that way intentionally, with input from our office, to ensure that the state did not have to wait on the EAC when important updates were needed.[1] Even with these provisions of Georgia law, Dominion advises that it has already submitted the update to the EAC for approval as a *de minimis* change, as recommended by the EAC-certified test lab.

Thank you to the counties whose diligent L&A testing allowed this issue to be identified and resolved quickly. And thank you to all county election officials for your continued hard work in this difficult year for election administration.

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[1] You probably remember that the EAC was without a quorum for two years, and therefore unable to take any action.

Page **2** of **2**

IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF GEORGIA
ATLANTA DIVISION

DONNA CURLING, ET AL., **Plaintiffs,** **v.** **BRAD RAFFENSPERGER, ET AL.,** **Defendants.**	**DECLARATION OF** **J. ALEX HALDERMAN** **Civil Action No. 1:17-CV-2989-AT**

Pursuant to 28 U.S.C. § 1746, J. ALEX HALDERMAN declares under penalty of perjury that the following is true and correct:

1.   I hereby incorporate my previous declarations as if fully stated herein. I have personal knowledge of the facts in this declaration and, if called to testify as a witness, I would testify under oath to these facts.

2.   I have reviewed the "Letter Report" prepared by Pro V&V concerning version 5.5.10.32 of the Dominion BMD software (Dkt. No. 939). The report makes clear that Pro V&V performed only cursory testing of this new software. The company did not attempt to independently verify the cause of the ballot display problem, nor did it adequately verify that the changes are an effective solution. Pro

V&V also appears to have made no effort to test whether the changes create new problems that impact the reliability, accuracy, or security of the BMD system.

3.   This superficial testing is deeply concerning, because Pro V&V's characterization of the source code changes indicates that they are considerably more complicated than what Dr. Coomer previously testified was the threshold for considering a change to be "de minimis": "literally a one-line configuration change in some config file that would have no material impact on the system" (Dkt. No. 905 at 102:18-103:14). Instead, Pro V&V states that Dominion made two kinds of changes and modified lines in five different source code files. In general, changes that affect more lines of source code or more source code files are riskier than smaller change, as there is a greater likelihood that they will have unintended side-effects. Changes to source code files, as Dominion made here, also tend to be riskier than changes to "config[uration] files."

4.   The nature of the changes gives me further reason for concern. According to Pro V&V, one change involved changing a "variable declaration" to modify the "type" of a variable. A variable's type determines both what kind of data it holds and how operations on it function. Although changing a variable declaration often involves differences in only one line of source code, the effect is a change to how the program operates everywhere the variable is used, which could involve

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many parts of the source code and span multiple files. For this reason, changing a variable's type frequently introduces new bugs that are difficult to detect. I have often experienced such problems while writing software myself.

5.   It is not possible to evaluate the effects of such a change by analyzing only the lines of source code that have been modified. Yet Pro V&V's description of its "source code review" is consistent with having done nothing more. The company could have engaged an expert in the specific programming language to analyze the quality of the changes and look for subtle side-effects throughout the code, but it appears that they did not.

6.   Instead, the report states that "Pro V&V conducted functional regression testing." Regression testing has a well-defined meaning in computer science: checking that a change to a system does not break its existing functionality. After a change to a voting system like this, rigorous regression testing is essential for ensuring that the system's reliability, accuracy, and security are not degraded. Yet the testing Pro V&V describes performing is not regression testing at all. Instead, the company focused entirely on checking whether the ballot display problem was fixed and makes no mention of testing any other functionality whatsoever.

7.   Even for this limited purpose, Pro V&V's testing methodology is inadequate. They first tried to observe the error while using the current version of the BMD software, 5.5.10.30. They managed to trigger it using an artificial test ballot but failed to reproduce it using the real ballot design from Douglas County (where the problem was observed during L&A testing) even after 400 attempts.[1] They then performed the same checks using the 5.5.10.32 software. Pro V&V's basis for concluding that the new software corrects the problem is that they were unable to trigger the error with either ballot after 400 tries. Yet this ignores the obvious possibility that the error might simply be eluding them, as it did with the Douglas County ballot under version 5.5.10.30.

8.   That is the full extent of the testing described in Pro V&V's report. They did not test that the other functionalities of the machine are not impacted by the change. They did not test that the BMD selected and printed results accurately, nor did they test that security was unaffected. Tests only answer the questions you ask. Here—regardless of what Pro V&V intended—the only questions asked were: "Is the stated error observed when using the old software?" and "Is the stated error observed when using the new software?" They did not ask, "Is Dominion correct

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[1] It is curious that Pro V&V was unable to reproduce the problem experienced in Douglas County, but they appear not to have made any effort to investigate this.

4

about the cause of the problem?" They did not ask, "Does this change absolutely and completely fix the issue?" Most importantly, they never asked or answered the key question for determining whether the change is de minimis, "Will these modifications have any impact on the rest of the voting system's functionality?"

9.   Even if the change does correct the bug without introducing new problems, it still represents a significant security risk, because of the possibility that attackers could hijack the replacement software to spread malware to Georgia's BMDs.

10.   Defendants say they will guard against this using hash comparisons, but the hash comparison process they have described is inadequate in several ways.[2] As I have previously explained, examining the hash that the BMD displays on screen provides no security, because malware on the BMD could be programmed to calculate and display the expected hash. Although the State now says it will perform some acceptance testing at a central facility, such testing has limited value at best. Even if performed correctly—by securely computing the hash of the software using a device that is assuredly not affected by malware—acceptance testing can only

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[2] The Pro V&V report lists the hash of a file named ICX.iso, which presumably contains the APK as well as other files. Without access to the ICX.iso file, I cannot confirm whether that the software purportedly being installed on the BMDs is the same as the software Pro V&V built and tested.

confirm that the new software was not modified between Pro V&V and the test facility. It does not ensure that the new software actually matches Dominion's source code or that it will not be modified during later distribution to counties or installation on the tens of thousands of BMDs statewide.

11.   The report mentions that Pro V&V performed a "trusted build" of the new software. This refers to the process by which Pro V&V compiled the source code to produce the APK file for distribution and installation throughout Georgia. The result of compiling source code, often called a software "binary," is in a non-human readable format, and it is not possible in general to confirm that a binary faithfully matches source code from which it was purportedly compiled. As a result, if Pro V&V were to modify the BMD software to introduce malicious functionality—or if attackers who infiltrated their systems were to do so[3]—there

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[3] Notably, Pro V&V's website (http://www.provandv.com/) does not support HTTPS encryption, and modern web browsers warn users that it is not secure, as shown below. In my experience, organizations that fail to support HTTPS are likely to be ignoring other security best practices too, which increases the likelihood of attackers successfully infiltrating their systems.

would be no readily available way for the State or Dominion to detect the change. The State's election security experts themselves have emphasized the risk of election manipulation by so-called "insiders."

12.   Defendants state that Pro V&V has submitted the report to the EAC to seek approval for a de minimis change. The EAC's de minimis software change process was introduced less than a year ago, and, as far as I am aware, it has only been invoked on one or two occasions so far. In my opinion, the EAC cannot make an informed determination as to whether the new Dominion software meets the de minimis standard based on the information contained in Pro V&V's report, and I sincerely hope the agency demands more rigorous testing before allowing the software to be used under its certification guidelines.

I declare under penalty of the perjury laws of the State of Georgia and the United States that the foregoing is true and correct and that this declaration was executed this 3rd day of October, 2020 in Ann Arbor, Michigan.

_____

J. ALEX HALDERMAN

7

**IN THE UNITED STATES DISTRICT COURT FOR
THE NORTHERN DISTRICT OF GEORGIA
ATLANTA DIVISION**

DONNA CURLING, et al.	))))
Plaintiff,	))
vs.	)) **CIVIL ACTION FILE NO.: 1:17-**) **cv-2989-AT**
BRAD RAFFENSPERGER, et al.	))))
Defendant.	))))))

SUPPLEMENTAL DECLARATION OF KEVIN SKOGLUND

KEVIN SKOGLUND declares, under penalty of perjury, pursuant to

28 U.S.C. § 1746, that the following is true and correct:

1. I hereby incorporate my previous declarations as if fully stated herein. I

   have personal knowledge of all facts stated in this declaration, and if

   called to testify, I could and would testify competently thereto.

2. I have read the Letter Report regarding "Dominion Voting Systems ICX

   Version 5.5.10.32" from Pro V&V to Michael Barnes dated October 2,

   2020 ("Letter Report").

3. The Letter Report describes Pro V&V's evaluation of a proposed code

   change by Dominion to address a flaw in the current ICX software

   related to reliably displaying two columns of candidates.

4. Pro V&V's evaluation is inadequate to verify Dominion's opinion of the root cause of the error, Dominion's proposed fix for the error, or whether the nature of the proposed change is considered "de minimis" as defined by the U.S. Election Assistance Commission ("EAC").

High Impact Changes

5. The Letter Report describes changes that are potentially high impact.

6. I expected the change to be limited to one or two lines in a configuration file based its description in the hearings. A configuration file change would provide a new value for the existing code to use.

7. The impact of changing a value being *used* by code is far less than the impact of changing the code *itself*, in the same way that changing the furniture in a house has less impact than moving walls. The value may be different but it will travel the same pathways through the code during operation. The structure and governing rules are unchanged.

8. Instead, the Letter Report describes two sets of changes to the source code *itself* in a total of five files. It does not quantify the number of lines changed, but it must be at least five. These are not merely configuration changes. Variable and function definitions in the source code are changed.

9. The changes described may sound minor, for example changing a variable from an integer (e.g., 123) to a string (e.g., "123"), but I would give them no less consideration. I have broken plenty of code making similar changes.

10. One reason is that any code elsewhere in the program that uses a changed variable or function could be impacted. Another part of the code may act correctly when given 123 but act incorrectly when given "123". The first can have numbers added and subtracted, while the second can be searched for a specific character, but the reverse is often not true.

11. The Letter Report describes a source code review limited to the changed lines of source code. The code comparison performed is similar to reviewing the changed text in a legal blackline. It does not appear that Pro V&V looked throughout the source code for other interactions which could prove problematic.

12. The Letter Report states that Dominion believes the problem is a collision of resource identifiers between their software and the underlying operating system. I think it's a fair analogy to say that Dominion's software and the operating system sometimes try to park in the same parking space.

13. In my experience, an abundance of caution is necessary when the operating system and software running on it are working in a shared

space and not playing well together. A misstep could create additional problems in their interactions and any change should be carefully considered and well tested.

14. The Letter Report does not describe any review of the proposed software's interaction with the operating system. It does not mention the involvement of any expert on the operating system or an opinion regarding colliding resource identifiers—the reported cause and the target of the resolution. This is a concerning oversight.

Inadequate Testing of the Root Cause of the Error

15. Pro V&V was unable to reliably reproduce the error with the current version of the software, ICX 5.5.10.30. In fact, they reported producing the error only once out of 810 total attempts.

16. Pro V&V appears to have taken Dominion's word for the root cause of the error. The Letter Report does not mention any independent investigation to determine the cause.

17. The description of Pro V&V's first test, using a sample election database, begins with a procedure likely suggested by Dominion—toggling between font sizes to trigger the error. When the 10th toggle produced the error, Pro V&V considered the root cause to be confirmed. That is in itself not unreasonable.

18. However, the same test procedure was later performed using an actual election database, from Douglas County where logic and accuracy testing had revealed the error previously, and 400 toggles and several reboots could not produce the error. Of two test cases that should have both failed, one failed and one did not.

19. Despite these conflicting test results, Pro V&V did not investigate further. They did not consider what might be different between these two test cases to cause contradictory results. They did not consider if the sample election database at the center of their tests was a poor substitute for a real database. They did not consider that the root cause could be different, or that toggling the font size might not be a good trigger for the error.

20. Pro V&V wrote the Letter Report without having confirmed that Dominion's opinion of the root cause was correct.

Inadequate Testing of the Proposed Fix for the Error

21. It is impossible to verify that a proposed change sufficiently addresses an error if the root cause is unconfirmed. A change may only appear to fix the error due to coincidence. Correlation is not causation. A change may incompletely fix the error or create subtle side effects.

22. I have learned this lesson many times while fixing software bugs during my 23 years as a programmer, and I teach that lesson in a course on

software testing. I have also had the practical experience of taking a car to the auto mechanic over and over as they try different solutions for an uncertain cause.

23. Pro V&V's basis for determining that the error was fully resolved by the proposed change, ICX 5.5.10.32, was that the error was not observed after 400 toggles and several reboots.

24. This is not an ideal test case because "absence of evidence is not evidence of absence." The conclusion requires an assumption that subsequent attempts would not surface the error. Given that the first test required only 10 toggles to trigger the error, after 400 toggles and several reboots I might have made a similar assumption.

25. However, when Pro V&V performed the subsequent test on the Douglas County database and also could not observe the anticipated error after 400 toggles and several reboots, they did not revisit their conclusion about ICX 5.5.10.32. They should have.

26. They did not consider that the error could be eluding them in ICX 5.5.10.32 as it was with ICX 5.5.10.30 using Douglas County's database. They did not consider that their assumption that 400 toggles was enough to surface the error was wrong. They did not consider that the proposed change might be an insufficient remedy for the problem.

27. To be clear, I am not suggesting that Dominion's opinion of the root cause is incorrect or that Dominion's proposed change does not fix it. I am saying that testing was insufficient to verify either one. Pro V&V showed no skepticism about their findings when the results created a logical fallacy.

28. Even more surprising, Pro V&V had a real election database from Douglas County in hand, yet they did not test it with ICX 5.5.10.32. The stated purpose of this eleventh-hour software change was to resolve this error for the current election database, rather than create and distribute a new one. The test lab hired to confirm that the new software will work with the current database in a matter of days did not even check.

29. Pro V&V wrote the Letter Report without having confirmed that Dominion's proposed fixed correctly addressed the error, neither on the sample election database nor on the election county database counties are planning to use.

Inadequate Testing of "De Minimis"

30. The EAC defines a de minimis change as:

A de minimis change is a change to a certified voting system's hardware, software, TDP, or data, the nature of which will not materially alter the system's reliability, functionality, capability, or

operation. Under no circumstances shall a change be considered de minimis if it has reasonable and identifiable potential to impact the system's performance and compliance with the applicable voting Standard.[1]

31. The Letter Report does not describe any testing to demonstrate that the nature of the proposed change does not "materially alter the system's reliability, functionality, capability, or operation" and does not have a "reasonable and identifiable potential to impact the system's performance and compliance with the applicable voting Standard."

32. Pro V&V ignored these critical, foundational requirements in their testing.

33. Pro V&V did not test whether *any* other functionalities of the device are impacted. They did not test whether the new build of the software correctly selects candidates in a series of contests and accurately prints them on a ballot. They did not test other screens to ensure that a fix to the two-column layout did not break another. They did not check if it was still possible to change languages or screen contrast, or whether the audio ballot, used by voters with disabilities, was still working. They did not test whether the device's security was impacted.

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[1] "Testing and Certification Program Manual," Section 3.4.2, available at: https://www.eac.gov/sites/default/files/eac_assets/1/6/Cert_Manual_7_8_15_FINAL.pdf

34. Pro V&V did not answer the litmus test for de minimis. Does the change materially alter the system's reliability, functionality, capability, or operation?

35. The Letter Report describes "functional regression testing," which might help answer this question, but it misuses the term.

36. Regression testing is a "re-running functional and non-functional tests to ensure that previously developed and tested software still performs after a change."[2] It is so named because a regression is a step backwards in the development of software, the proverbial "two steps forward, one step back."

37. Pro V&V examined the rendering of the two-column layout in their tests. Regression testing would validate that *other* parts of the software still perform correctly.

38. Regardless of Pro V&V's determination, this change is not a de minimis change until the EAC reviews it and approves in writing. "The EAC has sole authority to determine whether any VSTL endorsed change constitutes a de minimis change under this section. The EAC will inform the Manufacturer and VSTL of its determination in writing."[3]

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[2] "Regression Testing", Wikipedia, available at https://en.wikipedia.org/wiki/Regression_testing

[3] "Testing and Certification Program Manual," Section 3.4.3

39. The EAC prohibited *any* software changes to be considered de minimis until recently out of concern that even small changes might alter the system functionality, due to potential ripple effects I described earlier.

40. Given that the process is new, I expect that the EAC will scrutinize any request for a software de minimis change carefully. I expect the EAC to ask for more rigorous testing and reporting than the Letter Report.

Concerns about the Time Remaining for Review and Testing

41. In my previous declaration I expressed concern about a software change at this late date and fear that time pressures may result in less thorough review and testing of the proposed change.

42. The Letter Report is a wholly inadequate review. Its tests are incomplete.

43. The EAC has not yet begun to review this proposed software change. Using the revised software without the EAC's approval will void the federal certification. EAC approval must be granted in the next five business days to allow early voting to commence on the following Monday.

44. Yet the uncertified software has been distributed and counties have been instructed to install it on over 30,000 ImageCast X devices and to begin testing them.

45. Last week, I heard Michael Barnes describe the current procedures for logic and accuracy testing. The procedures do not test every device, for every ballot style, for every candidate. The procedures do not include any additional testing related to this error. This problem and others could pass through logic and accuracy testing undetected.

Executed on this date, October 4, 2020.

_____

Kevin Skoglund

DECLARATION OF HARRI HURSTI

Pursuant to 28 U.S.C. § 1746, HARRI HURSTI declares under penalty of perjury that the following is true and correct:

1.   This declaration supplements my prior declarations (Docs. 680-1, 800-2, 809-3, 860-1, 877, and 923-2) a nd I stand by the statements in those declarations.

2.   I arrived at the Fulton County Election Preparation Center ("EPC") on October 1, 2020 around 3:45pm. I was there in my capacity as an expert engaged by the Coalition Plaintiffs to conduct a Rule 34 inspection. (Exhibit 1) . I was accompanied during part of my visit by Marilyn Marks of Coalition for Good Governance.

3.   My goal for this observation and inspection was to review the ongoing updating of the Dominion software for Fulton County ballot marking device ("BMD") touchscreen units to ICX software version 5.5.10.32. It is my understanding that Fulton has an inventory of over 3,300 BMD touchscreens, all of which are to be updated with this software. A number of the machines were in the EPC warehouse and were staged to be updated or marked after the update had been completed.

4.   Upon our arrival, Ms. Marks and I were informed by Derrick Gilstrap, the manager of EPC, that all of the people working to upgrade the devices were

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Dominion technicians. Mr. Gilstrap stated that he did not feel comfortable installing a last-minute software change, and did not want Fulton County staff to be responsible for installing it. He told us that he told Dominion to conduct this operation, prior to having his staff install the November 2020 election programming and Logic and Accuracy testing ("LAT").

5.   Mr. Gilstrap told us that after the software update step that LAT would immediately begin, and made no mention of Acceptance Testing that should occur prior to LAT.

6.   Acceptance Testing is an almost universally mandated basic test of the hardware and software when a change or repair to either has been made before counties are permitted to install election programming and deploy voting system components. Acceptance testing must be performed on each unit, and cannot be performed on a sample basis. Fulton's failure to conduct such testing should be a serious warning sign of further recklessness in the installation of inadequately tested software.

7.   Mr. Gilstrap stated that Dominion had started the software update project with four workers, but soon realized that the task would take extended periods of time. Mr. Gilstrap stated that Dominion had accordingly increased the workforce to 14 and expected the installation work to be completed on Monday, October 5.

8.   The new software was contained on USB sticks. However, there was no inventory management present for the USB sticks. There also was no inventory control for the technician authorization smartcards, which provide access to the controls of the touchscreen. Workers did not sign or otherwise document when they took possession or returned the technician cards and software upgrade USB sticks. Those items were in an open plastic bag which was sometimes placed on table, and sometimes carried around the working area by the manager. Anyone was able to pick up a USB stick or drop them there freely, permitting the easy substitution of USB sticks containing malware or to leave the premises with copies of the software update.

9.   Some workers worked one BMD touchscreen machine at the time, while others simultaneously worked on 2 or 3 machines. There was no accountability for how many sticks and technician smart-cards each worker had in their possession. Clearly, the USB sticks were not considered to be security sensitive items at all.

10.   Some of the workers had instructions for software update visible in their pockets, while others did not seem to have the instructions readily available. One worker showed me the instructions, but it was different from the instructions I had seen that were sent to the counties. None of the technicians that I observed were following the instructions as they installed the new software.

11.   Technicians were not following a common process, and they all made their own variations on the workflow. In my experience, this can negatively affect the quality and reliability of the software installation. Many workers were texting and making phone calls while working and not focusing on their work. As a result, I observed repeated human errors such as skipping steps of the process.

12.   Some workers consistently took an extra step to destroy previous application data before uninstalling the old version of the software. Uninstalling software packages results in destroying application data, but that is known to be unreliable in old versions of Android. The step they took is ensuring, among other things, destruction of forensic evidence of Fulton's use of the equipment in prior elections.

13.   To avoid destruction of all forensic evidence from the BMDs, a number of images of the electronic data contained on the BMDs should be taken from a sample of them before installation of the new software.

14.   As part of the updating process, the workers are directed to enable the "Install from Unknown Sources" setting. This is an insecure mode because it turns off the operating system verification of trusted sources and therefore allows software from any source to be installed. During the 45 minutes of my observation, I observed that many units had been left in insecure mode. I estimate 15% of the units were already in the insecure mode when the work began on them, having

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been left that way during the last software installations, or because of interim tampering.

15.   As described before, most workers I observed were not focusing on the work they were tasked to do, and as result, they were accidentally skipping steps. I observed that, as result of these human errors, the units were erroneously left in the insecure mode either by the workers skipping the step to place the machine into the secure mode after upgrade, or doing the step at such a fast pace that the system did not register the touch to toggle the switch and the worker did not stop to verify the action.

16.   The State Defendants and Dominion have repeatedly overstated the value of their hash test, but my observation showed that they themselves are not relying on such test as a control measure.   Dominion workers are not even checking the hash value. I deliberately followed many workers when they processed the units. During over 45 minutes of observation, none of the workers took the step of verifying the hash value. Some workers did not realize that the upgrade had failed and the mistake was only caught by persons who were closing the cabinets when and if they looked at the software version numbers before closing the doors.

17.   I also observed random errors that were not caused by humans. For example, software sometimes refused to uninstall because the uninstall button was

disabled, or the installation silently failed. The technicians treated devices with

issues by simply rebooting them. Technicians made no effort to diagnose or

document the cause of the issues. The casual nature of dealing with the

irregularities caused me to conclude that these abnormal incidents are

commonplace.

18.   Based on my observations of the software update, I would anticipate

that these machines are likely to behave inconsistently in the polling place,

depending on a number of factors including the care taken in the software

installation process.

19.   The current abbreviated LAT protocol adopted by Fulton County and

the State cannot be relied on to identify problems created by the new software or

its installation (or other problems with programming and configuration unrelated to

the new software). Even if counties were conducting the full LAT required, it is

but one step that is needed, and is quite insufficient for ensuring the reliability of

the BMD touchscreens—which at the end of the day, simply cannot be done.

20.   In my professional opinion, the methods and processes of adopting

and installing this software change is completely unacceptable. The methods and

processes adopted by Dominion and Fulton County do not meet national standards

for managing voting system technical problems and remedies, and should not be

accepted for use in a public election under any circumstances.

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21.   It is important that full details of the software change made be available for analysis and testing to determine the potential impact of the changes. I concur with Dr. Halderman's opinion in Paragraph 8 of his September 28, 2020 declaration (Doc. 923-1), in which he states that if the problem is as limited as described by Dominion, it could have been addressed with far less risk by the State without making an uncertified, untested software change.

22.   In my opinion, the installation of the last-minute software change adds intolerable risk to the upcoming election, and the simple solution of removing the BMD units from the process and adopting hand marked paper ballots is imperative.

23.   I note that I wanted to document the upgrading process, but Mr. Gilstrap told me that I was prohibited from taking photographs or video. I showed him the Rule 34 inspection document and pointed out the paragraph permitting photographing. He read that carefully but told me that he needed to clear that with his superiors before I could start taking pictures. He never cleared this with his superiors while we were there.

I declare under penalty of the perjury laws of the State of Georgia and the United States that the foregoing is true and correct and that this declaration was executed this 4th day of October, 2020 in Atlanta, Georgia.

Harri Hursti

IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF GEORGIA
ATLANTA DIVISION

DONNA CURLING, *et al.*

    Plaintiffs,

    v.

BRAD RAFFENSPERGER, *et al.*,

    Defendants.

CIVIL ACTION

FILE NO. 1:17-cv-2989-AT

STATE DEFENDANTS' NOTICE OF FILING
REDACTED VOTING SYSTEM TEST LABORATORY REPORT

Pursuant to the Court's September 30, 2020 docket entry, and as

discussed in Defendants' Notice of Filing Regarding the Court's Request for

Documentation, [Doc. 929], State Defendants provide notice of filing a

redacted copy of the Voting System Test Laboratory Report, attached hereto

as **Exhibit 1.**

Respectfully submitted this 5th day of October 2020,

> */s/ Carey Miller*
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> Josh Belinfante
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1

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Counsel for State Defendants

CERTIFICATE OF COMPLIANCE

Pursuant to L.R. 7.1(D), the undersigned hereby certifies that the

foregoing **STATE DEFENDANTS' NOTICE OF FILING REDACTED**

VOTING SYSTEM TEST LABORATORY REPORT has been prepared in

Century Schoolbook 13, a font and type selection approved by the Court in

L.R. 5.1(B).

> */s/ Carey Miller*
> Carey Miller

Exhibit 1

Letter Report

PRO V&V

To: Michael Barnes

From: Wendy Owens - Pro V&V, Inc.

CC: Jack Cobb - Pro V&V, Inc.

Date: October 02, 2020

Subject: Dominion Voting Systems ICX Version 5.5.10.32

Dear Mr. Barnes:

Pro V&V is providing this letter to report the results of the evaluation effort on the ICX version 5.5.10.32. An examination was performed to confirm that this version of the ICX software corrected the issue with displaying of two column contests found in ICX version 5.5.10.30.

Background

Pro V&V was contacted by Georgia Secretary of State Office and Dominion Voting System to analyze an issue that was discovered in Georgia's Election Logic and Accuracy Testing (L&A testing) for the 2020 General Election. It was discovered during L&A testing that a display error, under certain conditions, would occur where the second column of candidates would not be displayed properly. Dominion Voting Systems researched the issue and found that a static container identifier was causing a collision with an Android automated process for assigning container identifiers. This collision caused the display for the second column candidates not to be rendered on the screen properly and occurred so infrequently that it appeared intermittent.

Test Summary

Dominion Voting Systems submitted source code for ICX version 5.5.10.32 to Pro V&V. Pro V&V then conducted a comparative source code review comparing ICX version 5.5.10.32 to the VSTL-provided previous ICX version 5.5.10.30. The source code review found two source code changes in a total of five files. One change was a variable declaration change the variable type to a string from an integer and changing the assignment from a static number to assigning another variable. The other update was to change a function call passing a "wrapper tag" instead of a "wrapper ID". All other source code remained constant. After conducting the source code review, a Trusted Build process was conducted. The Product from this build is the ICX.iso file. The SHA-256 hash for this file is as follows:

    ICX.iso - ████████████████████████████

Pro V&V conducted functional regression testing using version 5.5.10.30 and 5.5.10.32. An ICX machine was loaded with 5.5.10.30 and an election containing two 2 column contests. Pro V&V toggled between "Normal" and "Big" font sizes. Approximately on the 10th toggle the column disappeared as presented in Photograph 1.and 2 below:
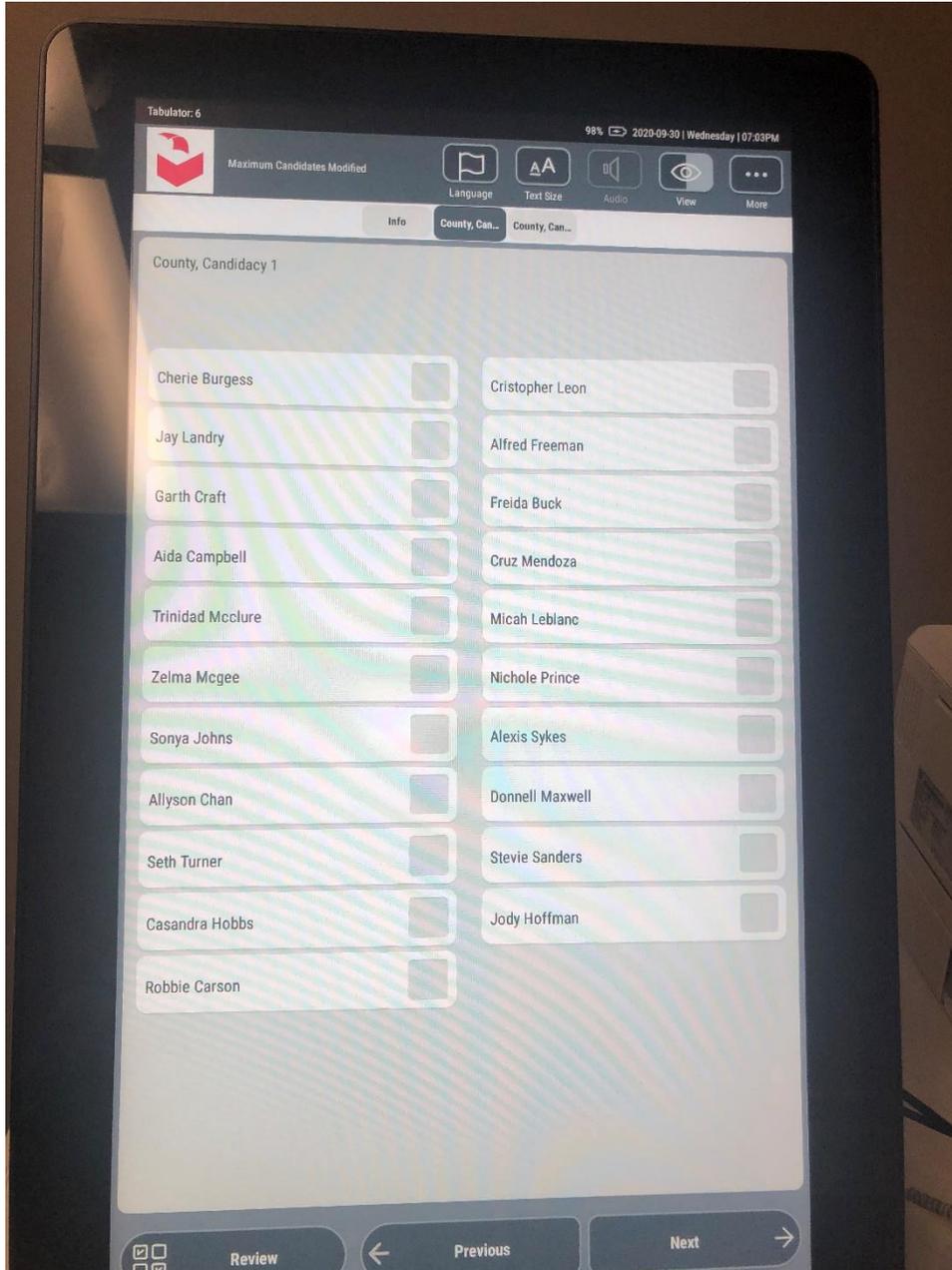
Photograph 1: Max Candidate Election Contest One
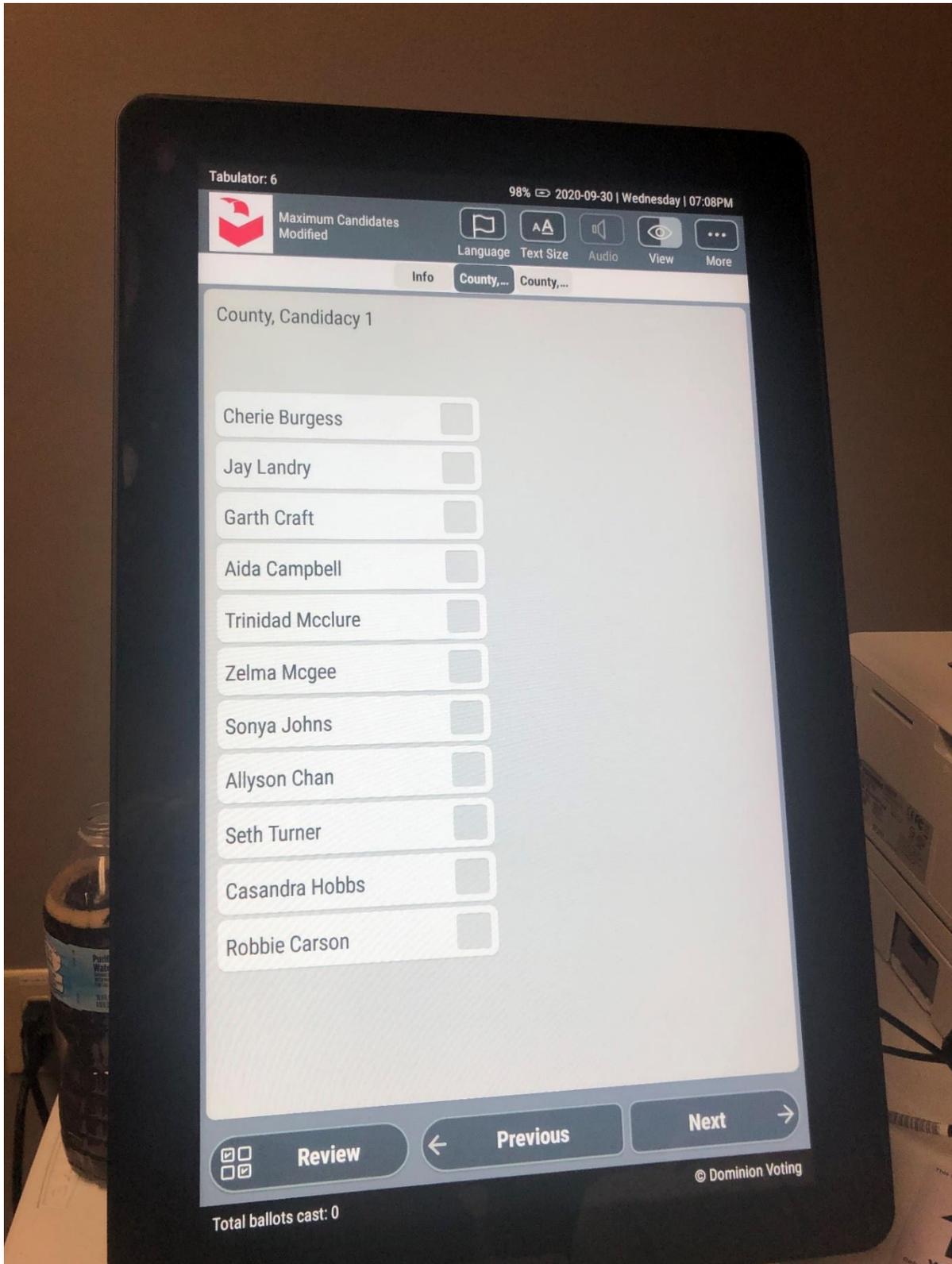
Photograph 2: Second column was not rendered.

After reproducing the issue. The same device was load with the ICX version 5.5.10.32 and the same election. Pro V&V toggled 50 times then rebooted, 100 times then rebooted and finally 250 times. Pro V&V never observed the issue.

Pro V&V requested Douglas County Georgia's 2020 General Election database that had produced the issue, but could not reproduce the issue for the ICX software version 5.5.10.30. Even though Pro V&V could not reproduce the issue, Pro V&V ran the same test as the test election toggling 50 times then rebooted, 100 times then rebooted and finally 250 times. Pro V&V never observed the issue.

<u>Conclusion</u>

Based on the review of the source code and nature of the change, Pro V&V recommends the change be deemed as de minimis. Based on the testing performed and the results obtained, it was verified through source code review and functional testing that the issue found in ICX version 5.5.10.30 can not be reproduced in ICX version 5.5.10.32.

Should you require additional information or would like to discuss this matter further, please contact me at 256-713-1111.

Sincerely,

Wendy Owens

Wendy Owens
VSTL Program Manager
wendy.owens@provandv.com

1   IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF GEORGIA
2   ATLANTA DIVISION

3

4   DONNA CURLING, ET AL.,   :
                                               :
5   PLAINTIFFS,   :
vs.   : DOCKET NUMBER
6   : 1:17-CV-2989-AT
BRAD RAFFENSPERGER, ET AL.,   :
7   :
           DEFENDANTS.   :
8

9

10   **TRANSCRIPT OF ZOOM VIDEO CONFERENCE PROCEEDINGS**

11   **BEFORE THE HONORABLE AMY TOTENBERG**

12   **UNITED STATES DISTRICT JUDGE**

13   **OCTOBER 1, 2020**

14   **9:08 A.M.**

15

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17

18

19

20

21   *MECHANICAL STENOGRAPHY OF PROCEEDINGS AND COMPUTER-AIDED*

22   *TRANSCRIPT PRODUCED BY:*

23

OFFICIAL COURT REPORTER: *SHANNON R. WELCH, RMR, CRR*
24   *2394 UNITED STATES COURTHOUSE*
                                    75 TED TURNER DRIVE, SOUTHWEST
25   *ATLANTA, GEORGIA 30303*
                                    (404) 215-1383

UNITED STATES DISTRICT COURT
OFFICIAL CERTIFIED TRANSCRIPT

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 1             A P P E A R A N C E S   O F   C O U N S E L

 2

 3    FOR THE PLAINTIFFS DONNA CURLING, DONNA PRICE, JEFFREY
      SCHOENBERG:
 4

 5         DAVID D. CROSS
           MORRISON & FOERSTER, LLP
 6

 7

      FOR THE PLAINTIFFS COALITION FOR GOOD GOVERNANCE, LAURA DIGGES,
 8    WILLIAM DIGGES, III, AND RICARDO DAVIS:

 9

           BRUCE BROWN
10         BRUCE P. BROWN LAW

11         ROBERT ALEXANDER McGUIRE, III (VIA VIDEO CONFERENCE)
           ROBERT McGUIRE LAW FIRM
12

13    FOR THE STATE OF GEORGIA DEFENDANTS:

14

           VINCENT ROBERT RUSSO, JR.
15         CAREY A. MILLER
           ROBBINS ROSS ALLOY BELINFANTE LITTLEFIELD, LLC
16

17

      FOR THE FULTON COUNTY DEFENDANTS:
18
           CHERYL RINGER
19         OFFICE OF THE FULTON COUNTY ATTORNEY

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1	**P R O C E E D I N G S**
2	**(Atlanta, Fulton County, Georgia; October 1, 2020.)**
3	THE COURT: Good morning. Counsel, would you just
4	check the extra numbers here -- anyone with an extra number
5	here or person here to make sure everyone here is identified
6	with you. I can see what they appear to be.
7	Mr. Martin, is this everybody that you have let in?
8	COURTROOM DEPUTY CLERK: Yes, ma'am, this is
9	everybody.
10	THE COURT: All right. So if -- the two individuals
11	who are just solely appearing by telephone, can you identify
12	yourselves?
13	MS. RINGER: Phone number ending in 8737 is Cheryl
14	Ringer from Fulton County.
15	THE COURT: Okay. Very good. That is fine.
16	And the person whose number ends in 8993, would you
17	identify yourself.
18	MR. FRONTERA: Your Honor, can you hear me? This is
19	Mike Frontera, general counsel, with Dominion Voting Systems.
20	THE COURT: Very good. Thank you very much. All
21	right. That is fine. Everyone is authorized to be on.
22	Thank you, everyone, for being here. I want to say
23	from the start that we have this now on the platform -- a
24	different Zoom platform, and we are -- I am -- I have
25	authorized the videotaping of the hearing solely for the

1   purpose of if I determine that some portion of this really

2   should have been on the public record that it can be made

3   available on the record.

4   Not knowing what was going to be discussed exactly

5   and understanding that there might be some confidentiality

6   issues, I decided that we should just proceed in this way,

7   rather than by making it open and then trying to pull it back.

8   So that is the purpose of videotaping it. I don't really --

9   normally wouldn't do that.

10   But under the emergency circumstances here, I have

11 proceeded this way. And I think it is the soundest way of

12 proceeding in that way. And also I can make any portion of

13 this that would be public be available to the public.

14   Additionally, I want to note though that the

15 videotape is not -- will not be the transcript of record. The

16 only transcript of record of that will be created by Ms. Welch

17 as the court reporter in this matter. And you are not to refer

18 to the videotape at any point as kind of the official record in

19 this matter. And, of course, the transcript will be filed.

20   I am -- just was, frankly, perplexed by the response

21 that the State filed last night. And I know everyone is busy.

22 I'm not trying to in any way minimize how busy you are. And --

23 and Mr. Russo already has told me from the start that he has to

24 be out -- that he has to be complete by 10:00.

25   Are you starting the hearing in front of Judge Brown

1   at 10:00, Mr. Russo?

2   MR. RUSSO: Your Honor, that hearing is at 10:00.

3   But we have sent two of our colleagues there to do it so we

4   could be here. So Mr. Belinfante and Mr. Tyson are there, and

5   Mr. Miller and me are here. So you have got us today.

6   THE COURT: Okay. Very good. Wonderful.

7   MR. MILLER: And I think the 10:00 issue was specific

8   to Dr. Coomer's availability.

9   THE COURT: All right. Very good. So please,

10   everyone, bear that in mind as to Dr. Coomer's availability

11   because if there is something that he needs to address early

12   on, whether it is from the perspective of the Court or the

13   State, let's be sure we just jump ahead and get his input.

14   MR. RUSSO: Your Honor, also, we have the staff from

15   the Secretary's office on standby. We have Mr. Germany, the

16   general counsel, on right now. But Mr. Sterling and Mr. Barnes

17   are -- we told them to continue working since they have

18   election stuff going on and that if you needed something from

19   them we would patch them in accordingly.

20   THE COURT: That's fine. All right. Well, as I

21   understand it, the -- from what you -- from what the State

22   submitted last night -- and it wasn't on the record. That was

23   just, I think, a letter from counsel. It was that you -- that

24   basically the State defendants were proceeding, that you were

25   sending the software out today -- the software to jurisdictions

1   across the state, and basically this is a distraction that I

2   was causing, and it was none of my business. Well, that was

3   the tonality of it. It was a quick letter.

4   But let me just say -- start from the start is that I

5   think I have endeavored to work cooperatively with everyone. I

6   have an order to issue. I need to -- whatever it says, whether

7   it is just simply -- you know, doesn't do anything at all,

8   which is certainly -- you know, given everything I have told

9   you in the past that I am very reluctant to even consider in

10   this election saying, oh, suddenly do a sudden change to the

11   paper ballot.

12   But I still -- this is still a record. And I don't

13   know what will happen in the days ahead. But I think that the

14   Court is entitled to, with respect, be given the information

15   needed to issue an intelligent decision. And this was a change

16   of circumstances.

17   And I am -- I don't know who thought I wouldn't have

18   issued a decision without full knowledge of the circumstances

19   that have arisen. I don't mean this personally against anyone.

20   I think everyone has generally been very professional with me.

21   But this is not an acceptable response, and I know everyone is

22   short on sleep and at their wits' end on some things. So I

23   understand it that way. I sure am very short on sleep too.

24   And there is a lot of stress under these

25   circumstances. So I humanly recognize all of that. And so I

1   just sort of had to breathe in and say, all right, where are we

2   going from now, once I got the response and just say, all

3   right, you know, without any drama, I want to understand what

4   is going on.

5   And that -- the expectation I had was not the -- that

6   things were just proceeding and that I wouldn't basically know

7   what was happening.

8   So I think that is -- just as an initial matter, that

9   is where we're at. I mean, I am, you know, at 95 percent on

10   having an order ready to be timely issued. And I held it back

11   while this is going on.

12   And, of course, that is why on Monday we issued the

13   order on the one thing that was clearest that needed to be

14   acted upon as soon as possible. But I was holding back as soon

15   as I heard anything was going on.

16   So let's just talk about what has happened. My

17   understanding from the letter on September 29th that is on the

18   record that -- as opposed to the letter that I received

19   yesterday from counsel that the acceptance testing -- there

20   would be acceptance testing that would occur before there was

21   going to be distribution.

22   I guess it is a filing now. I'm sorry. I didn't

23   realize that counsel's letter was filed. So excuse me for

24   that.

25   In any event, I thought there was going to be

1   acceptance testing before there was distribution. And maybe

2   there was, and maybe I misunderstood what was instead stated in

3   the brief letter.

4   So, first of all, let's just start off just as to

5   that. Did that occur?

6   MR. RUSSO: Your Honor, yes. So, first, you know,

7   let me say we filed the letter under seal because that is what

8   was discussed on Monday. As a letter, you said to file it

9   under seal. So that is why we filed it that way.

10   THE COURT: That is fine.

11   MR. RUSSO: We didn't necessarily think there was

12   something in there that was attorneys' eyes only or anything to

13   that extent.

14   THE COURT: All right. Then I will lift the seal.

15   Okay. Fine.

16   MR. RUSSO: In terms of the acceptance testing, the

17   Secretary of State's office did conduct acceptance testing

18   prior to distribution of the update. That is correct.

19   Mr. Barnes did that. And then the distribution proceeded.

20   THE COURT: And when did Mr. Barnes do that?

21   MR. RUSSO: I believe his acceptance testing was

22   done -- conducted yesterday. Mr. Miller might -- might know if

23   it was done yesterday or the day before. Frankly, my days are

24   starting to run together right now.

25   THE COURT: Yeah.

1   MR. MILLER: Your Honor, I believe it was done Monday

2   and Tuesday. And so the kind of process through that -- the

3   acceptance testing was, you know, essentially receiving the

4   application from Pro V&V and running through just a typical

5   acceptance testing and, you know, primarily ensuring also that

6   the rendering issue that was discovered in logic and accuracy

7   testing was not recurring.

8   And, importantly, you know, there's -- acceptance

9   testing was not the only thing being done. The voting system

10   test laboratory was also doing its part.

11   And, frankly, Your Honor, as to the filing, we

12   certainly didn't intend any disrespect. We do, you know, have

13   to note our objections. And, of course, it becomes an awkward

14   situation to do so. And we do appreciate your understanding

15   throughout this thing.

16   But we also, frankly, understood that you may be

17   seeking the Pro V&V evaluation, which the formal evaluation we

18   just -- we don't have right now. They have completed the

19   evaluation. The written report is not done yet.

20   MR. RUSSO: That's right, Your Honor. That was in

21   our filing yesterday. And we didn't -- you know, we expect

22   that report -- to have it by the end of the week.

23   To the extent there is any delay from Pro V&V getting

24   us the report, we just didn't want, you know, there to be

25   any -- any misunderstanding about a delay if we made that

1   representation. But we do expect it by the end of the week,

2   and we will file it upon receipt.

3   In terms of the EAC issue, you know, the order said

4   to file -- to file anything that is filed with the EAC,

5   presuming a filing is made with the EAC. Dominion actually

6   does -- Dominion would make the filing with the EAC, not the

7   State. And Dr. Coomer can speak to that.

8   But there appeared to be some misunderstanding in

9   counsel's email yesterday regarding the EAC filing. But to

10 be -- to be clear, we -- since it has not been filed yet, we

11 didn't have any update for you. But that is a Dominion issue,

12 not a Secretary of State issue.

13   THE COURT: Well, it is obviously the responsibility

14 under the state law still though for you to have an

15 EAC-certified system.

16   MR. RUSSO: Well, Your Honor, I mean, the update is a

17 de minimis update. So that is according to Dominion.

18   In terms of what state law requires and what state

19 law doesn't require, I mean, there is not a claim in this case

20 regarding our compliance with state -- with state law. The

21 only state law claim that was in this case was abandoned by

22 plaintiffs earlier and dismissed in Your Honor's order on the

23 dismissal a couple of months ago.

24   THE COURT: All right. Let me just put it this way.

25 I mean, it is an indicia of -- it is an important indicia of

1   what is going on and is this -- and from an evidentiary

2   perspective certainly relevant.

3   So I would -- you know, I went back at least and

4   looked at the most recent regulations issued by the EAC. And I

5   didn't see it as not being a requisite step to -- even a

6   software modification as being requisite. Maybe I will hear

7   differently from Mr. Coomer or Dr. Coomer -- excuse me. And

8   Dr. Coomer is welcome to address at this point where things

9   stand.

10   DR. COOMER: Good morning, Your Honor. This is

11   Dr. Coomer. Yeah. So I'll try to describe the process again.

12   So we identified this change. And it was our feeling

13   that it was de minimis. But we do not make that determination

14   ourselves as a company.

15   So the way the EAC process works is we submit that

16   change to an accredited laboratory, in this case Pro V&V. They

17   analyze the change. They look at the code. And they determine

18   whether it is de minimis or not.

19   If it is de minimis, then they do whatever testing

20   they need to do to prove the nature of the change and verify

21   it. And then they label it a de minimis change. They write a

22   report. And at that point, it is just submitted to the EAC as

23   what is called an ECO, an engineering change order.

24   So there is no new EAC certification effort. It is

25   simply updating the current certification for this ECO. And

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1   that is what we --

2              THE COURT:  I'm sorry.  ECO?  I'm sorry.

3              DR. COOMER:  ECO, engineering change order.  And this

4   is a software ECO.  And that is how the process works.

5              So once Pro V&V has the final report, we will submit

6   that to the EAC, Election Assistance Commission, certification

7   as an ECO, engineering change order, for the current

8   EAC-certified system, the 5.5-A.

9              THE COURT:  So the November 15 clarification --

10  notice of clarification from the EAC that indicates that a

11  proposed de minimis change may not be implemented as such until

12  it has been approved in writing by the EAC, that is

13  meaningless?  That is Provision 3.4.3.

14             DR. COOMER:  I have got to be honest.  We might be a

15  little bit out of my bounds of understanding of the exact rules

16  and regs there.

17             THE COURT:  And Mr. Maguire, as counsel for you -- it

18  looks like he is present.

19             MR. MAGUIRE:  Yes.  That's correct, Your Honor.

20             THE COURT:  Is that said at all?

21             MR. MAGUIRE:  I'm sorry.  I'm unprepared to address

22  it, Your Honor.

23             THE COURT:  All right.  That is fine.  I didn't ask

24  you to be prepared.  I just wanted to -- in case you wanted to,

25  I wanted to give you that opportunity.
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1   MR. CROSS: Your Honor, if it is helpful to you,

2   Mr. Skoglund -- this is an area of expertise for him.

3   Your Honor has hit the nail on the head, which what

4   Dr. Coomer's explanation left off was once that EAC paperwork

5   goes in you still have to wait for approval from the EAC. The

6   EAC has to agree that it is a de minimis change and that it can

7   operate under the existing certification.

8   If they disagree, then you have got to get a new

9   certification. But until that is approved, you do not have EAC

10 approval to proceed. And Mr. Skoglund can explain that in more

11 detail. So right now they would be proceeding without EAC

12 approval. That is where we stand. That should be undisputed.

13   THE COURT: Maybe that is what they have determined

14 they must do. But I'll let Mr. Skoglund briefly discuss it. I

15 mean, I think it is sort of evident.

16   But, Mr. Skoglund, can we -- thank you.

17   MR. RUSSO: Your Honor, one quick point. O.C.G.A.

18 21-2-300(a)(3) is clear that the equipment has to be

19 EAC-certified prior to purchase, lease, or acquisition. The

20 ongoing EAC certification that is now being raised, that is not

21 in the statute. But Mr. Skoglund can go ahead and explain the

22 rest of the process.

23   THE COURT: All right. And I'll get back to you,

24 Mr. Russo.

25   MR. SKOGLUND: So I would just agree with what has

1   been represented already. That is correct. You void your

2   certification if you don't have written approval before making

3   this change.

4   So the correct process is to go to the VSTL, then go

5   to the EAC, have them review it. They are the ones who make

6   the determination of de minimis based on the recommendation of

7   the VSTL. But it is really up to them to decide that. And

8   then they are the ones who bless it as being part of the

9   certification.

10   THE COURT: Either Mr. Russo or Dr. Coomer, is there

11 any -- has there been any type of contact at this point with

12 the EAC to say you are in emergency circumstances?

13   DR. COOMER: This is Dr. Coomer. I don't -- I don't

14 believe so. But we were waiting for that final report from Pro

15 V&V. And then that would be immediately submitted to the EAC.

16   MR. RUSSO: That's right. The Pro V&V report --

17   THE COURT: I'm sorry. Who is speaking right now?

18   MR. RUSSO: Vincent Russo.

19   THE COURT: All right. I'm sorry. We've got a lot

20 of people here.

21   MR. RUSSO: No problem. The Pro V&V report or Pro

22 V&V has indicated it is a de minimis change. So as

23 Mr. Skoglund mentioned, the EAC will take that report and that

24 recommendation and proceed from there.

25   But, again, we will file that report with you. And

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1    Dominion will move forward with its piece in reliance on that

2    report.

3              MR. MILLER:  Your Honor, I do also just want to point

4    out briefly that, you know, EAC certification is not

5    necessarily across the board.  There are other states that

6    don't have EAC-certified systems.  Of course, we're still

7    seeking to -- Dominion is still seeking to obtain the

8    certification.  But I did just want to point that out for the

9    Court as well.

10             THE COURT:  This is a -- obviously, it is a provision

11   the EAC has because it is -- no matter whether you call it de

12   minimis or not, it always obviously raises issues when you

13   change a piece of software and then you have to redo

14   everything.

15             You are obviously all doing testing, and I am glad

16   that you are doing the testing.  But the fact that you could be

17   in a place that doesn't require anything is one thing.  But,

18   you know, we are using a statewide system.  So it has larger

19   repercussions when you have a statewide system also.

20             All right.  And so the software -- the new software

21   is supposed to be distributed today.  And what is the schedule

22   from -- since you have said you are going forward even without

23   the EAC approval or without seeing the actual testing

24   documentation, what is your next plan?  What is going to happen

25   next?
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1   MR. MILLER: Your Honor, it was distributed

2   yesterday, I think, with the dropoff. And which also I do want

3   to briefly mention, you know, we sent an email about the

4   confidentiality of the dropoff process.

5   At this point, that is no longer confidential. It

6   was the prior to -- you know, it is a schedule of secure

7   transfer of files that was filed on the public docket. And so

8   that is the issue. I did just want to make sure we don't have

9   a loose thread there.

10   But in terms of the process next, the counties will

11   begin engaging in that logic and accuracy testing that was put

12   on pause after the last issue was discovered. And so we

13   started that. The counties will also verify the hash value on

14   the software that was given to them, which has already been

15   verified by Pro V&V, the hash outside of the system at the

16   Center for Election Systems, and additionally a hash again

17   outside of the BMD system before those software was copied to

18   the drives that were sent to the counties in sealed

19   envelopes -- sealed, numbered envelopes via the post-certified

20   investigators connected with the Secretary of State's office

21   who met their county liaisons at Georgia State Patrol posts.

22   That was --

23   THE COURT: What was verified at the Georgia State

24   post?

25   MR. MILLER: That was where the transfer occurred.

1   So when the software was received -- you know, Pro V&V

2   conducted their verification and validation, provided the

3   trusted build hash to the Secretary's office. The Secretary's

4   office then compared that trusted build hash to the hash of the

5   actual software they had received outside of the BMD system.

6   You have heard here before the concept that the BMD

7   can trick you into saying that the hash is verified. But,

8   again, this is wholly outside of the system such that that

9   is -- that is a separate issue entirely.

10   After that delivery to the counties, the counties

11 will also verify the hash and will then conduct their logic and

12 accuracy testing.

13   THE COURT: All right. All I was asking was when you

14 said something was verified when they picked it up at the

15 Georgia State Patrol.

16   That was just the sealing -- the seal of the

17 envelope?

18   MR. MILLER: Your Honor, yes. So the envelope was

19 sealed by -- right, was sealed by the Center for Election

20 Systems. And then the investigators of the Secretary's office

21 met county superintendents at Georgia State Patrol posts.

22   THE COURT: Okay. That's fine. Have you in any way

23 expanded the scope of your logic and accuracy testing in light

24 of these circumstances?

25   MR. MILLER: Your Honor, so I think -- I guess I

1   would separate it out briefly in that the Center for Election

2   Systems conducted their own sort of modified logic and accuracy

3   testing, which I referred to earlier as logic and accuracy

4   testing within CES, on BMDs that they themselves had that have

5   never been used in elections to verify that -- first of all,

6   that that same issue was not recurring but also to continue the

7   logic and accuracy testing such that -- to confirm that there

8   were no ancillary issues brought in to do so.

9   At the time it is sent to the counties, the counties

10 will then conduct their logic and accuracy testing, which now

11 also includes before inserting anything into the BMD verifying

12 that hash number, verifying it is the correct software. That

13 is kind of the initial step, which I believe -- I don't have

14 the letter in front of me. But we laid out kind of that first

15 couple of steps of the logic and accuracy testing.

16   THE COURT: All right. But you haven't decided at

17 this juncture -- to your knowledge that there have been no

18 change in the logic and accuracy testing protocols or just

19 going from one electoral race to the next in the machines so

20 that you don't do the entire ballot on every -- on a larger

21 number of machines in each of the counties?

22   And that is the process you-all described, one race

23 for one and then round-robin.

24   MR. MILLER: And I'm not sure I can speak to any of

25 the -- any detailed adjustments. What I will say is the

1   testing that was done within CES included five different ballot

2   styles that were chosen from Dekalb County being a county that

3   would have large ballot styles -- basically, you know, a number

4   of races, number of different types of ballots on there. And

5   then they were conducted on those different styles and also

6   conducted on the four different machines and printing out

7   basically hundreds of ballots to confirm the testing.

8   THE COURT: Well, as far as you know, there has been

9   no -- no one has considered trying to test a larger range of

10   the ballot -- the full ballot in a larger range of machines as

11   testified to in -- at the hearing and which was the protocol

12   that Mr. Harvey indicated was the protocol in his testimony?

13   Is that right?

14   MR. MILLER: Your Honor, as I understand it, the full

15   ballot is tested on all of the machines.

16   THE COURT: That wasn't his testimony. The testimony

17   was -- is that one race -- you picked a race. You went to the

18   next machine, and it would do the next race. And then you

19   would -- if you exhaust the race, which in Georgia you probably

20   wouldn't exhaust the race, you would start with the next one --

21   if you had 12 machines, you did the 12 first races. Then you

22   would go back to Number 1 machine, and you would go -- and it

23   would do the 13th race. Then it would go to Number 2 machine,

24   and it would do the 14th race.

25   That is what I'm getting at. So that, really, you

1   have a fraction of the machines that are actually doing the

2   race at issue. But it might screw up other races. So that is

3   really what I'm trying to get at.

4   But it doesn't sound like there have been any change

5   in the process, in any event, from what you know.

6   MR. MILLER: Your Honor, I would defer to the

7   testimony and the written instructions on logic and accuracy

8   testing. But yes. To answer your question, I couldn't comment

9   as to any sort of very specific minutia within that.

10   THE COURT: All right. I'm really not asking you to

11 testify yourself as to it.

12   As far as you know, no one has indicated to you that

13 they changed any of the --

14   MR. RUSSO: That's correct, Your Honor. As far as we

15 know, the process is the same as Mr. Harvey has discussed

16 previously.

17   THE COURT: That's all I'm trying to get at.

18   MR. RUSSO: You know, with respect to printing the

19 ballots and each race that we discussed at the hearing, that

20 hasn't changed. The only change is with the logic and accuracy

21 testing are to ensure that the hash value -- check the hash

22 value of the new software and the version on the front end.

23   THE COURT: And does Dr. Coomer know what was -- what

24 type of testing was done on the software at PV&V?

25   DR. COOMER: Your Honor, I'm not sure of the complete

1   test plan that they completed. Again, Pro V&V themselves

2   determine what test plan is necessary based on their analysis

3   of the code itself.

4   THE COURT: They didn't tell you?

5   DR. COOMER: I don't have the details. I would

6   just -- I could probably get that. But I don't have the

7   details.

8   THE COURT: When did they complete it?

9   DR. COOMER: I believe they completed that either

10   late Monday or Tuesday.

11   THE COURT: Do you know who was performing the

12   testing there?

13   DR. COOMER: The individual employees' names, no, I

14   do not.

15   THE COURT: I mean, is there a head of the unit that

16   deals with security or not at this point? Because we had very

17   vague testimony of that at the hearing.

18   DR. COOMER: I don't know the makeup of Pro V&V's

19   employees.

20   THE COURT: And do you have a backup plan in case, in

21   fact, there are issues that are arising in connection with

22   this? I mean, you are hoping for the best. You are thinking

23   the best will occur. But what -- if there are issues again,

24   what is the plan?

25   DR. COOMER: We'll work with our -- we'll work with

1   our partners at the State to do whatever is necessary.

2   MR. RUSSO: Your Honor, this issue, as you recall,

3   came up as a result of this U.S. Senate special election having

4   too long of a -- too many candidates and the Secretary of State

5   not wanting to have any candidates claim that they were

6   unfairly treated by being on the second page because surely

7   someone would say that by being on the second page they lost

8   votes.

9   We are not aware of any other issues with the BMDs

10   that would change, you know, the processes going forward. I

11   mean, Mr. Barnes conducted logic and accuracy -- his logic and

12   accuracy testing -- his acceptance testing I should say -- on

13   the machines.

14   The machines will go through acceptance testing. If

15   anything new is discovered in that process, we'll, of course,

16   have to address that. But we have no reason to believe at this

17   juncture there is anything new since this issue with the

18   ballot -- the number of candidates being on one screen has been

19   resolved.

20   THE COURT: Dr. Coomer, did you get an opportunity to

21   read Dr. Halderman's affidavit that was filed that if it really

22   was just simply only the first time ran on a machine why

23   wouldn't it have been adequate essentially to address this by

24   just basically running it the first time?

25   DR. COOMER: Well, so there is a

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 1   mischaracterization -- I'm not sure where that came from.  So I
 2   did not have a chance to --
 3             THE COURT:  Uh-oh.  Everyone put themselves on mute,
 4   and we'll try to --
 5             DR. COOMER:  So I didn't read -- I didn't have time
 6   to read the entire declaration.  But I will say that -- and not
 7   to disparage Dr. Halderman whatsoever.  But he is making
 8   assumptions when he does not have an understanding of the
 9   actual issue.
10             If I had time and charts and I could work on a
11   whiteboard, I could explain exactly what the issue is.  But it
12   is not that it happens the first time.  I said that it only
13   happens once -- can -- not that it always does -- but can
14   happen only once during a voting cycle.  And that is a power
15   cycle of the machine.  It is a rare occurrence that based on --
16   not just the ballot layout but, you know, the sequence of how
17   the voters have gone through the ballot.
18             There are essentially some indexes that are created
19   by Android operating systems.  And we have an index that we are
20   referencing.  And if there is a collision between those two,
21   the issue happens.  And it can only happen once because Android
22   keeps incrementing these indexes.
23             So it can only collide once.  And there is a very
24   specific set of circumstances that leads to this collision.
25   And it doesn't happen every time.
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1   Our analysis showed us how to actually reproduce that

2   deterministically. So I have seen some other things -- I'm not

3   sure if it was in Dr. Halderman's declaration or not -- that we

4   didn't understand the root cause of this and it was

5   undetermined how and when this could happen. And those

6   statements are not correct either.

7   So this is why we felt very confident in this change

8   because it is very minimal. Instead of referencing this

9   particular ID, we reference it now as what is called a tag.

10   There is no collision possible between our tag and these

11   Android IDs.

12   And then just to hit on this point, you know, asking

13   what if something else happens, well, this version -- you know,

14   the certified version that is being used in Georgia has been --

15   has been used by millions of voters across the U.S.

16   This is the first time we have seen this issue. And,

17   again, it is due to the unique layout to handle the special

18   Senate contest with the two columns of candidates.

19   So I just wanted to sort of make that known. You are

20   still on mute, Your Honor.

21   THE COURT: Can you explain to me what the -- to make

22   sure I don't misunderstand what you mean by power cycle, is

23   it -- basically it could happen every time that -- is it when

24   you turn the power on and then the next time when you turn the

25   power on?

SEALED TRANSCRIPT   25

1   DR. COOMER: Correct. Yeah. When you turn the power

2   off and you turn it back on, Android starts those indexes back

3   over.

4   THE COURT: All right. Then does it happen each time

5   just in the beginning or any time in the cycle? That was the

6   other part that was a little confusing to me because I had

7   thought you indicated before or somebody had indicated it was

8   right at the start of the cycle.

9   DR. COOMER: No, it is not right at the start.

10   Again, it depends on a variety of factors. So, you know, it

11   depends on the number of -- the number of display elements that

12   are on the ballot itself and how the voters walk through.

13   So it could be -- it could be several voters. And,

14   again, it doesn't happen all the time because you have to have

15   this unique overlap, you know. And that is wholly dependent

16   on, you know, the sort of behavior of the voters going through

17   the ballot of whether they just happened to hit on this unique

18   circumstance. But it is not -- it is not necessarily within,

19   you know, X number of voters.

20   THE COURT: Okay. And it is not -- so if you -- it

21   is not dependent on the fact that this is the first time

22   you've -- it is not the first ballot in any event?

23   DR. COOMER: Correct.

24   THE COURT: It is not the voter who gets -- who is

25   the first one in line who gets it necessarily?

SEALED TRANSCRIPT   26

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1          DR. COOMER:  Correct.

2          MR. CROSS:  Your Honor, could I ask a quick

3    clarifying question?

4          THE COURT:  Yes.

5          MR. CROSS:  I just want to make sure I understand.

6    On Monday, Dr. Coomer said -- he said this happens only once

7    for one voter during a complete machine cycle.  That was where

8    Dr. Halderman's understanding was coming from.

9          So is it right that it is not just once for one voter

10   during a machine cycle?  It could happen more than once?

11         DR. COOMER:  No, not during the machine cycle.  When

12   I say machine cycle, I was referring to power cycle.  So it can

13   only happen once.

14         MR. CROSS:  So then why is Dr. Halderman wrong?  Why

15   couldn't you just power it on?

16         DR. COOMER:  Because once is not the same as first.

17                    **(Unintelligible cross-talk)**

18         MR. RUSSO:  We are here to answer your questions,

19   frankly.  Plaintiffs can go do discovery if they would like to.

20   We are in discovery.  So you can continue to answer for now.

21   But I did want to raise that before we --

22         THE COURT:  I think -- Mr. Russo, I appreciate that.

23   But it was -- I certainly had the impression that Mr. Cross did

24   too.  So I'm very happy that Dr. Coomer is explaining it.

25         So if Mr. Cross had a misunderstanding too, then I
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1   think he is entitled to try to --

2   MR. RUSSO: And that is fine. I just wanted to make

3   sure before we got too far down this road that I raised this.

4   THE COURT: All right.

5   MR. CROSS: So, Dr. Coomer, all I was asking you: It

6   will happen only once in a power cycle, but you don't know when

7   it will happen, meaning you couldn't just do a single test

8   ballot? You would have to do test ballots until it happened

9   the one time and then you --

10   DR. COOMER: Right. And, again, to be clear, it

11 doesn't always happen. Right? It is this unique way of going

12 through the ballot. So you could -- you could say, oh, I'm

13 going to wait until this happens and it never happens because

14 you have passed those conditions.

15   MR. CROSS: Got it. Okay. Thank you. That is

16 really helpful, Dr. Coomer.

17   DR. COOMER: Sure.

18   THE COURT: So -- and maybe one has to have

19 Mr. Barnes here or someone else from the department present.

20 So I'm just trying to understand how the logic and accuracy

21 testing that is being performed at this juncture mirrors

22 that -- those conditions since it is not necessarily the first

23 time it has been done.

24   What were -- what are the instructions to make sure

25 that it doesn't happen, partially because, you know, the point

1   really is the size -- the vote should be counted properly is

2   you just don't -- it could -- there are repercussions if it

3   does in terms of people getting confused at the polls and other

4   sorts of problems that can happen there that it triggers -- the

5   people are worried about their votes and one comes to a halt,

6   et cetera.

7   MR. CROSS: Your Honor, could I ask one more

8   question?

9   Dr. Coomer, you mentioned that you could do -- you

10   figured out a way to do it deterministically, which means you

11   could trigger it. Would that work to -- rather than doing new

12   software, could the counties trigger it using this

13   deterministic approach? Then you could trust it wouldn't

14   happen again with the existing software. Would that be a fix?

15   DR. COOMER: I mean, that is -- theoretically, that

16   is possible because it depends on, again, a lot of variables.

17   So each -- you know, obviously each county and each machine

18   has -- may have a different set of ballots on there.

19   So like -- so what we did is -- obviously, this was

20   identified in two counties. And we know the ballot styles that

21   they were testing in those counties. So we zeroed in on that

22   and found a way using those two projects how to make it happen.

23   We would have to do that for every machine in every

24   location because it is dependent on the ballots that are in

25   that machine to then want to determine whether you could make

1   those IDs collide.

2   Does that -- does that clarify? That would be,

3   again, theoretically possible. A nightmare. And then that

4   whole process would have to be done every time the machine is

5   turned on.

6   THE COURT: Let me start this way simply: You-all

7   did some logic and accuracy testing yourself when you were

8   trying to do the software modification?

9   DR. COOMER: Oh, extensive testing. Extensive.

10   THE COURT: All right. How did you modify -- how did

11 you do it so that -- in light of these circumstances in terms

12 of the protocol so that you would -- it would be at least

13 randomly captured?

14   DR. COOMER: Right. So -- well, the first thing we

15 did is obviously analyze the projects where it was -- where the

16 issue arose. And that led us to figuring out what the root

17 problem was.

18   Then our initial testing was we actually set up a

19 quick project where -- knowing how the code behaved we knew

20 exactly the steps to take within a few clicks to make this

21 issue happen. Right? And so we set that up, verified on

22 multiple machines that we could make it happen according to

23 step A, B, C.

24   So then we applied the change and then redid those

25 steps, verified that that issue no longer arose, and then we

1 took that back to, you know, the actual -- some of the actual

2 real Georgia elections that would be tested and ran full

3 regression tests over several days to verify that nothing else

4 was impacted.

5   THE COURT: You ran full regression tests to

6 determine what? I didn't hear the last part of your sentence.

7   DR. COOMER: That no other functionality was

8 impacted.

9   THE COURT: So have you made any recommendation to

10 the State regarding any additional measures that should be

11 taken in order to test the functionality of both the fix as

12 well as that it didn't impact anything else?

13   DR. COOMER: So I don't -- I don't know all of the

14 information that was communicated to the State. But I believe

15 we did -- again, as I mentioned, we had those two counties

16 where we -- you know, where the issue was experienced. We know

17 how to make it happen in those two counties. I believe we

18 provided those steps to the State for verification. But,

19 again, I'm not the one that is actually communicating the

20 operational aspects directly with the State.

21   And then as far as the other functionality again, the

22 pre-logic and accuracy testing process we feel is enough to

23 verify that the system as a whole is still functioning as it

24 should.

25   THE COURT: Let me just say that in your testimony

1   before this Court you indicated that you had not been aware

2   that -- that the full ballot had been tested in each machine.

3   So I guess would it be wise to have more of the full

4   ballot tested in every machine? I mean, for instance, among

5   other things, this particular race?

6   DR. COOMER: I'm not sure -- I'm not sure I'm

7   following. But, again, you know, the logic and accuracy

8   testing that I'm aware of from the State I believe is adequate.

9   THE COURT: I don't want to get into a

10   cross-examination with you myself about that. But you do

11   understand that there is only a small fraction of the machines

12   each that are tested for -- for instance, as to this particular

13   race that are going to be out in the field?

14   DR. COOMER: Again, I don't -- I don't know every

15   single detail of the L&A that they are doing.

16   THE COURT: All right. That is fine. Then we'll

17   just -- we'll stop at that then.

18   Mr. Russo and Mr. Miller, is there anyone who is

19   familiar with the -- what the instructions have been to the

20   field with the State available just to talk for -- speak for a

21   minute or two?

22   I know Dr. Coomer has to leave in four minutes. So

23   before we do that, I want to make sure that there is not

24   anything else that counsel wish for Dr. Coomer to address.

25   MR. BROWN: Your Honor, this is Bruce Brown. I have

1   one question for Dr. Coomer.

2   Our information is that the version of the software

3   that was certified was .30 and the current version is .32.

4   What was .31, and what is .32? And have the

5   incremental changes from the various versions been tested,

6   certified, or approved?

7   MR. MILLER: Your Honor, we're just going to raise

8   the same objection earlier as far as cross-examination of the

9   witness right now.

10   THE COURT: Well, I think it is --

11   DR. COOMER: Version numbers change for a variety of

12   reasons. I'm not even sure what that question is trying to get

13   at.

14   THE COURT: Well, it is trying to understand if there

15   have been software change or some other change between the

16   5.5-A, I guess, .30 and 5.5-A.32, which this is. In other

17   words, what happened -- do you know what was .31?

18   DR. COOMER: There is absolutely no other change than

19   the one we supplied that we alluded to.

20   MR. BROWN: So why are there two version numbers?

21   DR. COOMER: There is not two version numbers. There

22   are a variety of reasons why when you do a build a version

23   number turns out the way it does.

24   I don't know what you are digging at. But I can tell

25   you -- I can state as fact -- and I just did -- that the

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 1   only --

 2             MR. MILLER:  Your Honor --

 3             DR. COOMER:  -- between those two builds is this

 4   change that we submitted.

 5             THE COURT:  All right.

 6             MR. BROWN:  So there is not a version 31?

 7             (Unintelligible cross-talk)

 8             MR. MILLER:  Your Honor, we just reraise the same

 9   objection.  Dr. Coomer is here voluntarily right now.  Dominion

10   is not a party to this.  He is trying to be helpful to the

11   Court.  And we are going down a path of cross-examination

12   again.

13             MR. CROSS:  Why are they scared to answer questions?

14             THE COURT:  All right.  No more commentary, let me

15   just say.  My understanding --

16             DR. COOMER:  I'm not scared to answer your questions.

17             THE COURT:  All right.

18             MR. CROSS:  I wasn't talking to you, Dr. Coomer.

19             THE COURT:  My understanding just from what

20   Dr. Coomer said was very -- there were a lot of people

21   speaking -- is that Dr. Coomer said that there was no separate

22   change from the 5.5-A that has been made so that there is -- to

23   the extent the other one had a .30, there was no .31 separate

24   change.

25             DR. COOMER:  That's correct.
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 1              THE COURT:  Is that correct?

 2              DR. COOMER:  That's correct.

 3              THE COURT:  All right.  Fine.  Thank you.  Is there

 4   anything else?

 5              All right.  Doctor, you are welcome to stay as long

 6   as you want to stay.  But I understood that you had a hard

 7   deadline.

 8              DR. COOMER:  Yeah.  I do have a hard stop, and I do

 9   appreciate that.

10              THE COURT:  All right.  Thank you very much.

11              MR. CROSS:  Thank you, Dr. Coomer.

12              THE COURT:  Is it Mr. Barnes who is giving directions

13   to people in the field about the L&A testing at this point?

14              MR. RUSSO:  I think Mr. Barnes would be the best

15   person to try to answer your questions.  He is involved with

16   the development of logic and accuracy testing.

17              THE COURT:  All right.  Is he --

18              MR. RUSSO:  We're going to -- if you can give us one

19   minute here to get in touch with him.

20              THE COURT:  That is fine.

21                    (There was a brief pause in the proceedings.)

22              THE COURT:  Good afternoon, again, or good morning.

23   Morning, Mr. Barnes, also.

24              I just -- we were discussing the circumstances around

25   the software being distributed and subject to logic and
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1   accuracy testing again. And I wanted to find out whether there

2   were -- to your knowledge, whether there were any additional

3   instructions about conducting logic and accuracy testing that

4   was given to any -- all or any of the counties relative to the

5   software.

6   MR. BARNES: The one additional instruction was for

7   the counties to verify the new hash signature for the new

8   version number of the ICX application.

9   THE COURT: And therefore am I to assume that there

10   were no -- there was no other modification and in particular

11   there was no expansion as to the number of the ICX machines

12   that were going to be tested for purposes of looking at that

13   race in particular or any other races?

14   MR. BARNES: Again, we did not give them another list

15   of instructions to follow for their L&A testing. Part of their

16   normal L&A testing is to check every vote position on every

17   ballot as they go through the ballot style. And that is how

18   the occurrence was found with the old version. So we were just

19   going to have counties follow the same protocols with the new

20   version.

21   THE COURT: Mr. Harvey had confirmed before though

22   that the instructions were that you would run the ballot --

23   let's say -- let's -- just consider that there were ten

24   machines, let's say, that were being tested. That you would

25   run race Number 1, which would presumably be the presidential

1   race, on Number 1 machine. Then you would run race Number 2 in

2   priority on machine Number 2. And when you had finished the

3   ten, then you would go back -- the 11th race would be tested

4   again -- would be tested on the machine Number 1 again.

5   Is that something different than you know of?

6   MR. BARNES: No. What my understanding of the L&A

7   procedure is is the ballot is loaded on to the L&A -- on to the

8   test screen ballot. And then the first race of the ballot is

9   displayed. And then on that race, they will mark each -- they

10   will touch the first candidate, validate that the mark is

11   there; proceed to the next race on the ballot; mark the

12   candidate, make sure it is there; and proceed all the way

13   through the ballot until they arrive to the summary screen.

14   And they validate that they see those selections on the summary

15   screen.

16   They then backtrack. Go back to the first race in

17   the ballot, remove the mark from the first candidate, and then

18   mark the second candidate in that race and proceed through the

19   ballot again all the way through the summary screen.

20   And this is done to make sure that every vote

21   position is responsive and that the system shows that summary

22   selection at the end. They will produce one printed ballot

23   through that exercise with at least one of those candidates per

24   contest marked. But they won't produce a ballot for every

25   instance, for every candidate in every race on every machine.

1   They will just produce one printed ballot at the end of that

2   test of that particular BMD.

3   THE COURT: And have you looked at the instructions

4   that were given in January via Mr. Harvey's office?

5   MR. BARNES: Yes, ma'am.

6   THE COURT: And that is what you think is consistent

7   with what -- what you have described is consistent with the

8   protocol described?

9   MR. BARNES: Yes, ma'am.

10   THE COURT: Well, let me walk through it again.

11   Because that certainly was not my understanding from the

12   testimony provided or from the observations that were provided

13   by people at the -- observers at the polling.

14   So I'm not -- so you are saying basically the member

15   of the staff who was testing it will go in and vote on the

16   presidential race? And just walk me through it again so I can

17   stop you now that I have heard the whole -- what you think is

18   supposed to happen.

19   MR. BARNES: Okay. So we'll take it as a single

20   race, single -- single ballot, single race. And we will say

21   the presidential race, which has four candidate options.

22   On the testing, they would load the ballot, bring up

23   the contest that shows the four -- the four contestants. They

24   will mark the first contestant and then leave that screen and

25   go to the summary screen to validate that that mark is showing.

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1   They would then go back to the race itself, remove

2   the mark, and then put a mark for the second candidate and then

3   proceed back to the summary screen, confirm that that is

4   showing. Go back again to the ballot, remove the mark, mark

5   the third candidate in the race, proceed to the summary screen,

6   confirm that is showing. And then go back to the race, remove

7   the mark of the third candidate, put a mark for the fourth

8   candidate, which is the write-in, type in some form of a name,

9   proceed to the summary screen, verify again that that is

10   showing.

11   Then they would backtrack, go back to the race

12   itself, remove the mark, go to the summary screen, verify that

13   that mark again is not showing. Then go back to the race. And

14   now they are going to put a mark on the ballot so that they can

15   produce a printed ballot from the machine.

16   And they may select the first candidate or second

17   candidate or third candidate depending on what they are needing

18   to produce for their test deck. So they may do the first

19   candidate and then proceed back to the summary screen and then

20   print the ballot.

21   THE COURT: So is the printed ballot the one with all

22   of the choices?

23   MR. BARNES: The printed ballot will only have the

24   one selection made at that last operation. The ballot can only

25   have one mark for the race.

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 1              THE COURT:  I don't -- because I don't know
 2    whether -- is anyone with you from -- are you able to receive
 3    an email if I send counsel the L&A procedure -- January
 4    procedure and they sent it to you at this point?
 5              MR. BARNES:  Yes, ma'am.  I have access to email.
 6              THE COURT:  I don't want to be the person directly
 7    sending it to you.  But -- all right.  But if counsel doesn't
 8    have it directly offhand, Ms. Cole can send it to one of you
 9    right away so you can send it on.
10              Send it both to Mr. Miller and Mr. Russo.
11              LAW CLERK COLE:  Okay.  I can also send it to Harry,
12    and he can share it on the screen.
13              THE COURT:  Okay.  Why don't we do both?  Why don't
14    we send it because it is harder for -- let's do both and give
15    Mr. Barnes an opportunity to look at it.  All right?
16              (There was a brief pause in the proceedings.)
17              MR. BARNES:  I haven't received anything as of yet.
18              LAW CLERK COLE:  Mr. Martin has it now if you want
19    him to share his screen.
20              THE COURT:  I want Mr. Barnes to be able to review it
21    without having to see it on the screen first.
22              MR. RUSSO:  My email might be running a little slow.
23    So I emailed it.  So it is just a matter of --
24              THE COURT:  That is fine.
25              Ms. Cole, can you pull up Mr. Harvey's affidavit
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1   also?

2   LAW CLERK COLE: Yes.

3   MR. RUSSO: Do you know what docket number that is?

4   THE COURT: Well, the affidavit?

5   MR. RUSSO: Yes, ma'am.

6   LAW CLERK COLE: My recollection is it is 834-3.

7   MR. RUSSO: Thank you. I was just trying to look

8   through the transcript for that explanation. I was not finding

9   it. I appreciate that.

10   MR. CROSS: Do you mind forwarding that document that

11   Ms. Cole sent you so that I can pull it up too?

12   MR. RUSSO: Yes.

13   MR. CROSS: Thank you.

14   THE COURT: Does everyone have the procedure?

15   Mr. Barnes, you don't have it still?

16   MR. BARNES: No, Your Honor, I do not.

17   THE COURT: Mr. Russo, did you send it?

18   MR. RUSSO: I did. Let me try again.

19   THE COURT: Okay. Very good.

20   MR. MILLER: I think we both actually sent it.

21   THE COURT: All right.

22   **(There was a brief pause in the proceedings.)**

23   THE COURT: All right. Mr. Barnes, did you get it

24   yet?

25   MR. BARNES: Yes, Your Honor. I just received it.

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 1          THE COURT:  Very good.  Let me give you an

 2   opportunity -- I'll give you the opportunity to read the

 3   portion that deals with the process for looking -- testing the

 4   polling place scanner, that one -- I'm sorry -- right above it,

 5   testing the BMD and printer.

 6          And have you had an opportunity to look at that, that

 7   Section D?

 8          MR. BARNES:  Yes, ma'am.  I'm reviewing that.

 9                  (There was a brief pause in the proceedings.)

10          MR. BARNES:  Your Honor, I've read it.

11          THE COURT:  Thank you very much.  So my understanding

12   both from Mr. Harvey's testimony on this particular procedure

13   and what the witnesses to the L&A testing observed when they

14   were able to observe this in a -- because it was public was

15   that the description provided in the text under -- in

16   connection with the word example was what was occurring, that

17   there was not -- every race was not in a particular ballot --

18   ballot machine -- every race that was listed on the ballot was

19   not, in fact, tested on that one machine.  That, in fact, it

20   was -- you went from machine to machine as described under the

21   word example.

22          MR. BARNES:  My -- excuse me.

23          THE COURT:  Yes.  Go ahead.

24          MR. BARNES:  My reading of the document outlines that

25   the ballot style will be displayed on, we'll say, machine one
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1   and that the process of creating the ballot that is going to be

2   used for the test deck for machine one would be that the --

3   that the operator would select the first candidate not for just

4   one race but the first candidate in every race on that ballot,

5   proceed through the whole ballot, and then at the end would

6   then print that one ballot that had the first candidate

7   selected.

8   So that the machine one would have ballot style one

9   and then it would have the selection of the first candidate in

10   every race selected and print it.

11   On the second machine, the ballot would be loaded.

12   And then from that machine, the ballot that would be printed

13   for the test deck would be the second candidate in each race.

14   And then that ballot would be printed for the test deck.

15   And then they would go to machine three, load the

16   ballot. And on this one, the ballot that would be produced for

17   the test deck would be the third candidate in each race within

18   that ballot and so forth and so on.

19   THE COURT: Well, that certainly is somewhat

20   different than my understanding the testimony and evidence.

21   And -- but I understand what you are saying.

22   What is the -- so just to summarize again is that you

23   understood that if I -- whoever was Number 3 in each race would

24   have been picked -- if you were on the third machine, you would

25   have picked Number 3 -- the candidate in the third position for

1   every single race?

2   MR. BARNES: Yes, Your Honor.

3   THE COURT: And what if there wasn't a candidate?

4   MR. BARNES: If there is not a third -- if one race

5   has four candidates but the second race only has two

6   candidates, then you do not make a selection at all. You would

7   skip. There is not a third option to choose. So you would

8   leave that race blank.

9   THE COURT: Then you would continue down the ballot?

10   MR. BARNES: Yes, Your Honor.

11   THE COURT: I think this is sufficiently a material

12   change in the way that perhaps it has been presented. I'm not

13   saying anything -- that you are wrong in any way or -- but I

14   just think that I would like to make sure there is nothing that

15   the plaintiffs want to ask in light of that testimony.

16   And have you observed this yourself or not?

17   MR. BARNES: I have not been in the field to observe

18   the L&A testing with the new system, Your Honor.

19   THE COURT: All right. So you haven't been in the

20   field to observe their application of this procedure?

21   MR. BARNES: That's correct.

22   THE COURT: All right.

23   MR. RUSSO: Your Honor, I pulled up Mr. Harvey's

24   declaration, and I'm looking at that. And he seems to indicate

25   that all -- that testing the ballots -- a test deck where you

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1    use every permutation would be overly burdensome and

2    unnecessary, as the Coalition plaintiffs urge, in other words,

3    to generate test ballots so that all candidates in all races

4    within the unique style have received a single vote.

5              I think maybe that is where some confusion is coming

6    into play.  And I think Mr. Harvey was under the impression --

7    and his declaration seems clear to me.  But to the extent there

8    is some confusion that maybe you thought every permutation on

9    the ballot maybe had to run a test deck with every combination,

10   is that -- and I'm just maybe trying to understand it also

11   myself -- where the disconnect is here, frankly.

12             THE COURT:  Mr. Skoglund was, I think, the

13   Coalition's witness or -- is that right?  Or was he Mr. Cross'

14   witness?

15             MR. CROSS:  Mr. Skoglund was a witness for the

16   Coalition.

17             THE COURT:  Okay.

18             MR. BROWN:  I'm sorry, Your Honor.

19             THE COURT:  So I'm assuming that you spent some more

20   time -- particular time on this, Mr. Brown.

21             So are there any -- anything you want to point out or

22   ask Mr. Barnes about?

23             MR. BROWN:  Thank you, Your Honor.  My question would

24   be, sort of to cut to the chase -- and that is:  On the logic

25   and accuracy testing as described by Mr. Barnes, all of the way
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1   through tabulation, there is only one ballot that is actually

2   tested and that the other testing that Mr. Barnes described was

3   testing the accuracy of the summary screen rather than the

4   accuracy of the final output.

5   Is that correct, Mr. Barnes?

6   MR. BARNES: What I was describing was the generation

7   of the test deck that has to be generated at the end of the L&A

8   testing.

9   THE COURT: Wait a second. I think we should put

10 ourselves on -- everyone but you on mute so that we make sure

11 that we --

12   Go ahead.

13   MR. BARNES: Again, what I was describing was the

14 generation of -- it is two parts. It is the L&A test to

15 validate display of ballot operation of the touchscreen being

16 receptive to touch and then the generation of the record from

17 each device that is used to organize the test deck that is then

18 scanned by the scanner.

19   So the tester wants to go through and look at each

20 race on the ballot, make sure that all the candidates are

21 displayed, make sure that all candidates are receptive to

22 touch, and take that all the way to the end of the summary

23 screen. And then they back out and continue that through all

24 positions.

25   But when they have completed that, they have to

1   produce a record. But they are only required to produce one

2   printed record from that BMD. And then they accomplish to get

3   all positions voted and a vote registered by doing the machine

4   one, the machine two, the machine three through the ballot

5   style.

6   MR. BROWN: Thanks.

7   MR. CROSS: Your Honor, could I ask a follow-up

8   question?

9   Mr. Barnes, did I understand you right so if you've

10   got -- well, let's just take a concrete example. There is a

11   Senate race this year that has, as we understand it, it sounds

12   like 20 or so candidates.

13   So that means you would generate a test ballot that

14   has -- you would generate a separate test ballot for each of

15   those candidates on however many machines correspond. Right?

16   So let's say there are 20 candidates. You would

17   generate 20 separate test ballots on 20 consecutive machines

18   selecting each candidate in turn.

19   Do I have that right?

20   MR. BARNES: What you would do -- let's say that

21   there are -- let's say that there are 20 machines. We'll make

22   a balanced number. Let's say -- actually we'll say there are

23   10 machines and there's 20 candidates.

24   Then you will start with machine one, check all the

25   races, check all of the candidates, make sure they are

1   responsive. But when you are done with that machine, at the

2   end of that machine, you would select the first candidate in

3   that Senate race and produce a ballot printout.

4   Then you would go to the second machine. The second

5   machine, again, you would check the full race, check all

6   positions, check responses. But when you are done with that,

7   you would produce one ballot from the second machine and that

8   would have the second candidate.

9   And you would repeat that process through those ten

10   machines. When you got to the 11th candidate, you would be

11   returning back to machine Number 1. And on machine Number 1,

12   you would now select -- again, you have already looked at all

13   of the candidates again already. So on that machine, you are

14   going to produce a second ballot. And that second ballot is

15   going to have the 11th candidate selected.

16   And then you will continue to proceed in that manner

17   until you have produced a record that -- a vote record that has

18   every candidate in that race voted one time.

19   MR. CROSS: And if you have got -- if the other

20   elections have fewer candidates -- right? So let's say you are

21   at candidate 6 out of the 20 and all of the other races have

22   fewer than 6 candidates, at that point forward, you would not

23   have any candidates selected on those races for the test

24   ballots?

25   MR. BARNES: That's correct.

1   MR. CROSS: So that would mean if we have got a race

2   this year of, say, 20 or so candidates, you would have a pretty

3   large number of test ballots coming out of machines that have

4   no candidate selected for some of those races?

5   MR. BARNES: That would be correct.

6   MR. CROSS: Thank you.

7   THE COURT: Just state that again, what you were

8   saying, Mr. Cross.

9   MR. CROSS: Because this year we've got a Senate race

10   that has a large number of candidates -- it sounds like 20 or

11   more -- and because once you get over -- say the next highest

12   number of votes is -- I'm trying to think of the easiest way to

13   say what I just said.

14   Once you get over the next highest number of -- say

15   every other race had two -- only two selections. Right? Once

16   you get to the race that has three or more candidates, you stop

17   selecting any candidates in all of those other races. You

18   don't go back and just select one that you have already

19   selected.

20   So that means once you get to 3, 4, 5, 6, on up

21   through 20-something candidates when you are testing it, all

22   the other races on the ballot would have no selections on any

23   of those test ballots for all of those machines. So you would

24   be going machine to machine to machine.

25   THE COURT: You are only going by position number. I

1   see.

2   MR. CROSS: So with this particular year with a race

3   with that many selections -- you are talking a pretty large

4   number of BMDs that would have test ballots with only a single

5   candidate selected, which then gets printed and tabulated.

6   Those BMDs would not have test ballots for candidates for all

7   but one race.

8   MR. RUSSO: I mean, there's always going to be

9   elections where you only have maybe one person in a race. So,

10 Mr. Barnes, that is what you would do, for example, if you had

11 a county commission race also on the ballot and you've got one

12 person in that race. Right. You would put that -- you could

13 check that person off the first -- on the first test ballot.

14 But going forward -- I mean, there is going to be other

15 contested races, of course. You know, maybe you have a house

16 race, a state house race with three candidates. So you have

17 got to go through those three times. But the county commission

18 race with only one candidate would only have -- be selected the

19 first time through.

20   MR. BARNES: Correct. Correct. And if --

21   MR. RUSSO: We have had this happen in every

22 election.

23   THE COURT: Well, I'm not sure that really helps

24 because, of course, when you have only a single -- a single

25 individual then they are in position one. So they are going to

1   be tested -- those races are all going to be counted as

2   position one.

3   The problem here we have is position -- the fact that

4   there might not be any others races that have Position 10 and

5   so -- or Position 8. So that basically in the very race that

6   sort of seemed to have -- on the ballot that had created a

7   quirk, you are going to have the least amount of L&A testing --

8   that's all -- in terms of output.

9   MR. CROSS: Well, yeah. I'm not sure that is quite

10   right, Your Honor. Let me back up.

11   They will test every candidate in that Senate race.

12   So that particular race that has a large number of

13   candidates -- right? -- that will get tested.

14   What it means is that for all of those ballots

15   beyond, say, the first three or four candidates, depending on

16   what else you have there, there will be no L&A testing for any

17   of those other races.

18   THE COURT: Right.

19   MR. RUSSO: Well, they are tested the first time. I

20   mean, I think we are saying the same thing.

21   MR. CROSS: No. No, they are not. What Mr. Barnes

22   is saying is there is no ballot that will be printed at all

23   from those BMDs that gets printed and scanned and tabulated

24   that has any candidate selected from any race other than the

25   Senate race once you get beyond the max number of candidates in

1   those other races.

2   And given a lot of those races are only going to have

3   maybe 2 or 3 candidates but we have got a race with 20 or more,

4   you are talking about maybe 50 to 20 machines each time that

5   are not having a single candidate tested to get printed and

6   scanned and tabulated.

7   MR. RUSSO: I understand what you are saying. But

8   you would have had -- that person who is -- you know, if it is

9   a race of three people, you would have had a test ballot that

10 would have had that person -- the third ballot would have been,

11 you know, in this example that you gave a race of three people.

12   Now, when you get to person four -- Mr. Barnes can

13 explain it. And if I'm wrong, I'm wrong. Mr. -- I'll let

14 Mr. Barnes explain it.

15   MR. CROSS: Because once you get to selection --

16 again, Mr. Barnes, I thought I -- let me just try my question

17 again. I thought we had it straight.

18   Let's say the maximum number of candidates on a

19 ballot was 4. That is the most you have in any race is 4,

20 except for you have got the Senate race, let's say, that has 20

21 candidates.

22   Are you with me?

23   MR. BARNES: Yes.

24   MR. CROSS: Once you get to selection five to test

25 that, meaning printing a ballot and scanning it, in the Senate

1   race, you are going to do that and that ballot is not going to

2   have any other candidate selected for the test ballot; right?

3   MR. BARNES: On that ballot style. But when there

4   are multiple ballot styles within the polling location, once

5   you complete ballot style one, you then have to do the same

6   thing for the next unique ballot style within that -- within

7   that polling location. So there is opportunity for more

8   ballots to be generated with more selections.

9   MR. CROSS: Right. But most -- particularly on

10   election day -- putting aside early voting, on election day,

11   most of your ballots -- most of your polls are going to have a

12   single ballot style; right? Otherwise, you are talking about a

13   polling site that has multiple precincts.

14   MR. BARNES: There is -- every precinct in the state

15   is different. Some only have one ballot style. Some have

16   many. It is a potpourri out there.

17   MR. CROSS: But with my example, you would have --

18   unless you are printing multiple ballot styles on that BMD, you

19   are going to have selections -- you are going to have machines

20   five through -- you are going to have 15 machines -- remaining

21   5 to 20, you are going to have 15 machines for which your test

22   ballot has only a single selected candidate just in that Senate

23   race; right?

24   MR. BARNES: The ballot that is printed for the test

25   deck, yes. But every position would have been looked at on

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 1    that ballot during the examination.
 2              MR. CROSS:  On the screen?
 3              MR. BARNES:  Correct.
 4              MR. CROSS:  And looking at the screen does not tell
 5    you what actually gets tabulated; right?
 6              MR. BARNES:  The screen is the interaction and the
 7    intent of the voter.  The ballot is what will be the official
 8    record.
 9              MR. CROSS:  Right.  So --
10              THE COURT:  And the next step is, of course, the
11    scanner tabulator?
12              MR. BARNES:  Correct.
13              THE COURT:  And you can't really test that just from
14    looking at the screen?
15              MR. BARNES:  Again, that is why we produce the record
16    from the machine so that the scanner can also be used to
17    validate that what is coming from the system is what the
18    scanner then tabulates.
19              THE COURT:  I think that the -- I mean, I'm not sure
20    that what is happening in the field is what you are describing.
21    But, you know, I'm just -- based on what the evidence is and
22    the way that Mr. Harvey described it but -- and why he thought
23    everything else was too burdensome.
24              But that is -- you know, I understand what you are
25    saying at this juncture.  I mean, I'm looking at my -- at a
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1   sample ballot here. And -- and basically when we get down to

2   number -- where we were actually thinking of four candidates,

3   we get down to the fifth one, only one of the major leaders

4   here who is in that first top four is Doug Collins.

5   So all the testing that would relate to other --

6   identified at least by the polls leaders in this race are after

7   Number 4. So testing of their -- any ballot, including them,

8   would be -- it would be fewer. But that is if it is, in fact,

9   the way it is indicated.

10   I'm just looking at Paragraph 6 of Mr. Harvey's

11   affidavit and also testimony. And I can't really know at this

12   point that what Mr. Barnes describes based on the testimony and

13   the evidence presented is exactly what is happening.

14   But, Mr. Skoglund, did you get an opportunity to be

15   present during any of the L&A testing? Remind me.

16   MR. SKOGLUND: No, Your Honor, I have not been

17   present for any of it.

18   Can I offer a thought about this?

19   THE COURT: Yes.

20   MR. SKOGLUND: So I think that, as I testified

21   before, you know, logic and accuracy testing depends on what

22   questions you are asking. Right? And the quality of the

23   question you ask depends on the quality of the test. So it

24   really makes sense to think about what questions you are

25   asking, what are you trying to find out.

1   And I think, you know, this is -- this is more logic

2   and accuracy testing that some jurisdictions do. But I think

3   that is not the standard. I think the question is: Does it

4   meet Georgia statute, which I think is quite good and quite

5   strong? I would go further, if it were me.

6   I think that the way I would do -- conduct a logic

7   and accuracy test and the way I have seen other people do it is

8   you create a spreadsheet essentially ahead of time with the

9   test pattern for votes for what you plan to do. And in that,

10   you try overvotes and undervotes and races where you vote for

11   two and the audio ballot and trying it in Spanish language.

12   And, you know, you try a variety of scenarios.

13   And then, you know, knowing that you have good

14   coverage in that spreadsheet, then you go to the machine and

15   ask each machine to accomplish that set of tests. That is

16   closer to what I think the Georgia statute requires.

17   THE COURT: Well, I just would like to know what is

18   actually going to be -- and whether everyone is going to be

19   doing something different actually. That is my concern at this

20   juncture but -- based on the evidence introduced.

21   But the other thing was simply because this was the

22   -- the alleged tweak that involving this particular ballot one

23   would really want to know it was -- all permutations of that.

24   It is hard for me to know without -- what I do know

25   is what -- the issue that Mr. Cross elicited. And it might

1   behoove the State to consider whether to modify at least this

2   in a way -- whatever the process is, if it is, in fact, like

3   what Mr. Barnes describes as opposed to the inference that was

4   given from the procedure as I identified and witnessed by

5   others who were watching the L&A testing in the last election,

6   it really behooves everyone to think about is there something

7   you want to beef up under the circumstances since you have a

8   software change particularly affecting that race.

9   I can't really say more at this juncture. I'm going

10   to go back and look. But there's really some material

11   differences between the way Mr. Barnes described it and the way

12   it was otherwise described.

13   MR. MILLER: Your Honor, I don't have the transcript

14   in front of me from the hearing, so I can't speak exactly of

15   Mr. Harvey's testimony.

16   But as far as the declaration and as I recall the

17   hearing, I think the concept was the concept that Mr. Barnes

18   described of the difference between printed ballots versus the

19   test on the screen. And so I don't think there is --

20   **(Unintelligible cross-talk)**

21   MR. MILLER: -- necessarily inconsistence there but

22   different topics.

23   THE COURT: Yeah. I mean, there is no question that

24   it was supposed to be getting at the difference as to whether

25   there was a difference between the way it tabulated and the way

1   it printed and the ballot.

2   But it was -- but it was much more helter-skelter

3   because -- as opposed to just testing one office per machine

4   and sometimes more depending on how large the ballot was. So

5   that -- I mean, that is exactly what -- not just through

6   Mr. Harvey's testimony but through the affidavit of people who

7   were witnessing it.

8   So, Mr. Harvey, are you -- is Mr. Harvey in charge of

9   giving you instructions or -- I gather? Are his folks out in

10   the field at all, or is it -- I'm not -- or is it your folks

11   who are doing the L&A testing? I mean Mr. Barnes.

12   I mean, it is somebody from the county. But who is

13   the technical adviser, if there is anyone?

14   MR. BARNES: Logic and accuracy testing is a county

15   responsibility. So it is in the hands of the county.

16   THE COURT: And do they -- are they relying then on

17   that 2000 -- January 2020 procedures manual in determining how

18   to proceed?

19   MR. BARNES: To my understanding, yes, Your Honor.

20   THE COURT: And this is not something that you have

21   given directions to anyone about in the field, I gather?

22   MR. BARNES: That would be correct.

23   THE COURT: And do you have any idea whatsoever why

24   there was an impression that it was a database that is going to

25   be distributed rather than software in the communication?

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1   MR. BARNES: Your Honor, I do not know why they chose

2   the word database for distribution. It was always that

3   application install -- an application upgrade installation.

4   MR. MILLER: Your Honor, I believe we can speak to a

5   little bit of clarity on that in that the form that you saw

6   attached to the email that, I believe, Mr. Brown filed is a

7   standard form that is used when databases are delivered to say,

8   here is the schedule, here is where we're coming through.

9   And so that form didn't change because it was the

10   same type of run. So it is the same type of thing that the

11   counties are used to doing and that the investigators and

12   liaisons sent out. And, you know, frankly, I think it may have

13   been a bit of a misunderstanding amongst the county liaisons

14   who were the direct contact as to what was being delivered but

15   they knew something was being delivered on this schedule.

16   THE COURT: I would like to just take a short break

17   so I can talk to Ms. Cole privately, and then -- then we'll

18   resume.

19   MR. RUSSO: Your Honor, could we let Mr. Barnes go

20   or --

21   THE COURT: Let him stay for just a minute. I won't

22   keep him much more. Thank you.

23   **(A brief break was taken at 11:00 A.M.)**

24   THE COURT: Mr. Brown, Mr. Miller? Let me just say

25   to counsel -- and I realize this is not Mr. Barnes' direct

1   responsibility. But he also described the process as he

2   envisioned it at least and testified. So that has some value.

3   At the very least -- and I would say perhaps more

4   than that -- the procedure that was identified on the January

5   memo is susceptible to a very different interpretation or

6   multiple interpretations.

7   And given the importance of the software -- the L&A

8   testing, I can't tell you that you are mandated, but I think

9   you would be really behooved -- it would strongly behoove the

10 State in the interest of everyone involved here that there be

11 clarification of what the process is.

12   You are using -- even though it has been identified

13 as a de minimis change, even if it hadn't been a change, it

14 would have been important for there to be -- in this first use

15 statewide in a major election to have this strong L&A testing.

16   And even if it is construed the way Mr. Barnes says

17 with the effect of it after you get to position four you are

18 going to have fewer tests, you will still have a lot of tests.

19 But, you know, it would have been -- it would be a better thing

20 to have a different process for dealing with this wrinkle.

21   But even so, I don't think that -- from what the

22 evidence was in the record that it is -- that the L&A testing

23 is being pursued in the way that -- the more pristine manner

24 described by Mr. Barnes. And maybe it is in some places, but

25 in many places it is not.

1   So, you know, to the extent that, you know, it is

2   still in process, which it definitely is -- it is just

3   beginning -- I would really encourage the State to think about

4   providing clearer directions, you know, thinking about

5   having -- not just relying on a written one but having some

6   sort of video conference to discuss it. And maybe you-all feel

7   like it is not necessary and that is -- but I think the

8   evidence might point to the contrary and --

9   MR. MILLER: Your Honor, I would want to say that,

10   you know, the memorandum that Mr. Barnes drafted that was

11   distributed by the elections director, that is not in a vacuum.

12   They conduct monthly webinars. They send various instructions

13   through Firefly. And those kind of things just haven't come

14   into evidence in this case because it, frankly, wasn't at that

15   point as much of a disputed issue.

16   We, frankly, thought we were talking about malware on

17   ballot-marking devices. But suffice it to say, Your Honor,

18   that there is a significant amount of additional kind of

19   guidance and instructive material to the county superintendents

20   throughout the election process through webinars and things of

21   that nature.

22   THE COURT: Well --

23   MR. MILLER: And it touches on this and other issues.

24   And, again, I could go into things that, frankly, are

25   definitely not an issue in this case as to candidate

1	qualification challenges, things of that nature.
2	THE COURT: I think that this case deals with a
3	variety of things that relate to the machine translating the
4	vote cast by the citizen that walks into the booth or cast in a
5	different way. So I'm just -- that is -- I'm just making these
6	comments.
7	I encourage you because of the way the evidence came
8	in and what it shows. I'm not saying -- I'm not in any way
9	obviously in a position to say that you -- Mr. Miller, that the
10	individual messages haven't gone out.
11	But the -- I still have the testimony in front of me.
12	I have the January procedures, which are the official
13	procedures from the Secretary of State about doing this --
14	preparing for an election that were in front of me. And then I
15	have voters as well as others who were on the board -- on the
16	boards' affidavits. So that is what I'm relying on in just
17	mentioning it to you. But, you know --
18	MR. MILLER: I understand, Your Honor. I'm not
19	trying to add additional evidence now.
20	THE COURT: I'm talking about the long run here. My
21	interest is not -- you know, even though it is described as I'm
22	interfering, my interest is in seeing that the voting system
23	works and the voters' votes are counted and that there are no
24	screwups on elections that end up having you back in court.
25	That is -- and to deal with the case in front of me and to deal

1   with it in an honest and straightforward way.

2   And I wouldn't be having this conference otherwise so

3   I can really understand what is going on. And --

4   MR. MILLER: We understand.

5   THE COURT: So this is a change. So that is what I'm

6   dealing with.

7   I still would -- as soon as you do have the --

8   whatever the submission is from Pro V&V, I would like it to be

9   submitted on the record so that we have it. And the same

10   thing -- and what the submission is to the EAC.

11   And if there is any further clarification that is

12   provided on L&A testing, I would like to be notified of that.

13   Because right now I have -- I mean, this is exactly what I'm

14   dealing with. I have to issue an order, and I don't want my

15   order to be inaccurate in any respect factually.

16   You may contest the conclusions. But I don't want it

17   to be inaccurate. And we have all worked really long enough to

18   know that is a concern always.

19   All right. Now --

20   MR. MILLER: Yes, Your Honor. I apologize. And I do

21   just to -- as we started off today, I do just want to reiterate

22   that we are appreciative of that and your attention to this.

23   And, frankly, the Secretary has the same goal of ensuring that

24   the election can go forward in the most efficient and effective

25   manner.

1   And, Your Honor, we are appreciative and will remain

2   responsive to the Court's requests. But it is truly a -- you

3   know, we are at crunch time. And our local election officials

4   are trying to administer elections while they are performing

5   inspections for the Coalition plaintiffs. Our State election

6   officials are trying to help out. And in practical

7   realities -- and I understand the Court did not intend -- and

8   we did not intend to have a negative tone towards the Court.

9   THE COURT: All right. We'll look at -- when

10 Ms. Welch gets her transcript out, I'll determine if there are

11 any -- what portions of the video could be made available on

12 the public docket.

13   I don't want to get myself in another problem with

14 not having a hearing being in public that should be. And

15 that's really again -- and there might be nothing here that is

16 confidential.

17   But you are welcome to send me, just having

18 participated in this, any of your position about this and about

19 what portion should be in the public or if all of it can be in

20 the public.

21   If you are going to do that, just simply so I can

22 proceed on a timely basis, I would appreciate your letting me

23 know -- let's see. It is 11:00 today. If you could let us

24 know by 4:00.

25   MR. RUSSO: Your Honor, are we going to get a copy --

1   how do we go about doing that? Do we get a copy of the video?

2   I mean, I do think probably Dr. Coomer's testimony is

3   something that may not need to be public. However, I just want

4   to make sure we understand the process here. We review the

5   video and send something to you or just --

6   THE COURT: Well, I think at this point I'm not sure

7   we're going to be able to -- I have to find out from IT. If we

8   have the video, we'll give it to you. And if not, you're going

9   to have to just simply go by your recollection -- your joint

10 recollection --

11   MR. RUSSO: Okay.

12   THE COURT: -- of counsel there.

13   MR. RUSSO: You say by 4:00 today?

14   THE COURT: By 4:00. But I'll let you -- we'll let

15 you know right away whether we can get you a video.

16   MR. RUSSO: Okay. I didn't know how that -- I have

17 never had a recording.

18   THE COURT: It is either yes or no that we can do it.

19 All right.

20   MR. CROSS: Your Honor, could I ask just -- because

21 it is something that may be breaking, we have heard a lot of

22 new information today. Could we just have Dr. Halderman just

23 briefly respond to a couple of points? Because it sounds like

24 this is stuff you are considering for Your Honor's order.

25   THE COURT: All right. But I would like to release

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1    Mr. Barnes so that he can go back to work, unless you have an

2    objection.

3              MR. CROSS:  No.

4              MR. BROWN:  No objection.

5              THE COURT:  All right.  Mr. Barnes, you are -- you

6    can go on with life.

7              MR. BARNES:  Thank you, Your Honor.

8              THE COURT:  All right.  Thank you very much.

9              Go ahead.

10             MR. MILLER:  Your Honor, before Dr. Halderman begins,

11   because I don't want to interrupt, we just do want to state our

12   objection on the record to the continued expansion of the

13   evidence at issue.

14             THE COURT:  Well, I think that to the extent that he

15   has something useful that helps me understand what has been

16   said, I think the plaintiffs have an opportunity to --

17             MR. RUSSO:  It may be -- you know, to the extent that

18   Dr. Coomer needs to listen to this -- and I don't know --

19             THE COURT:  You can show -- you are welcome to try to

20   reach Dr. Coomer.  But it seemed like he had a conflict.

21             MR. RUSSO:  I guess I could show him the video maybe.

22             THE COURT:  Or you could get Ms. Welch --

23             MR. RUSSO:  And he could respond to any --

24             THE COURT:  You could see if you could get her to

25   give you just his portion of the testimony.
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1               MR. RUSSO:  Okay.  I just want to make sure we get to

2    respond since there was a disputed issue earlier between the

3    two.

4               THE COURT:  Ms. Welch, are you able just to -- just

5    produce Mr. Halderman's -- we don't know how long it is.  But

6    let's say it is 20 minutes.  Are you able to do that -- turn

7    that around fairly quickly?

8               COURT REPORTER:  I can turn it all around very

9    quickly, Judge.  Whatever they ask of me, I do.

10              (There was a brief pause in the proceedings.)

11              THE COURT:  All right.  We'll get it to you one way

12   or the other.  Very good.

13              Can we unmute Dr. Halderman?

14              DR. HALDERMAN:  Hello.  Can you hear me, Your Honor?

15              THE COURT:  Yes.

16              Mr. Cross, did you want to structure this and give

17   him some questions?

18              MR. CROSS:  Yeah.  I mean, I think he's been

19   listening.

20              Probably the easiest way is:  Dr. Halderman, it

21   sounds like there are a few points that you had to respond to.

22   Go ahead.

23              DR. HALDERMAN:  Yes, of course.  And however I can be

24   helpful to the Court in this manner.

25              First, just to respond to the point that Dr. Coomer
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1   made about my suggestion in my most recent affidavit that

2   procedural remedies could cure this problem, I think his

3   response seems to indicate that the problem that we're

4   attempting to or the State is attempting to fix here is a

5   complex one, that it is possible to reproduce it but

6   reproducing it reliably, he testified, requires operating with

7   a simpler version of the ballot.

8   And that just gives me further concern about whether

9   the software fix can be adequately tested given the time that

10   is available.

11   Now, beyond that, I would like to reiterate the

12   substance of the security concerns that I have. We have to be

13   clear that even if the change to the source code is a small

14   one, as Dominion says it is, the process of updating this

15   software requires replacing completely the core of the Dominion

16   software on every BMD.

17   We know that because the update instructions are to

18   uninstall the APK, that is, the package that contains almost

19   all of the Dominion software that runs on the ballot-marking

20   device, and install a new APK, a new copy of all of that

21   software.

22   So this is, frankly, quite alarming from a security

23   perspective. Replacing the BMD software at this juncture so

24   close to the election is an ideal opportunity for attackers who

25   might want to infiltrate the machines.

1   If attackers have gained access to Dominion's

2   systems, to Pro V&V's systems, to the CES systems, or to the

3   county systems that are going to be creating and distributing

4   this software change, that would be an opportunity for the

5   attackers to subvert the software that runs on election day.

6   And, frankly, none of the procedures I have heard described

7   here today would be adequate to stop that.

8   So beyond the security questions, the change at this

9   point seriously concerns me from an accuracy and correctness

10   standpoint. As I said, the software change is fixing a problem

11   that is complex to reproduce. It is difficult to test to

12   ensure that the fix actually does correct that problem and

13   that -- and it is virtually impossible at this last minute to

14   thoroughly test that it doesn't create new problems.

15   So quite often last-minute changes to complex systems

16   do create other unknown consequences. And while the previous

17   version of the BMD software at least had been tested through

18   use in elections, as Dr. Coomer testified millions of voters in

19   aggregate, this new software has only existed for a matter of

20   days.

21   I myself personally have spent more time testing the

22   old version of the software than anyone has spent testing the

23   new version of the software because it has only existed for

24   such a short time.

25   Pro V&V hasn't even had an opportunity to write up

1   its findings. Those finding have not been reviewed by EAC,

2   which has introduced this de minimis testing categorization for

3   emergency fixes in small -- that are small in nature. But the

4   State isn't even following that -- that special case process

5   that has been put in place by EAC. It seems that that process

6   itself is being circumvented. It just seems quite extreme

7   in -- under these circumstances to forgo even that level of

8   compliance.

9   I wanted to just briefly address the L&A procedures

10   that we heard described. I think two key points about that are

11   that the L&A testing we have heard about would be trivial for

12   malware to detect and bypass. It has a very clear signature

13   that the BMD can see, that ballots are being printed, that are

14   being marked in the same position across every race.

15   It would be absolutely simple if you were programming

16   malware for the BMDs to have it avoid cheating on ballots that

17   are marked in the same position across each race.

18   So the security value of this L&A testing is minimal.

19   And we have also heard -- and I think this point came out

20   clearly for the first time today -- that the L&A testing isn't

21   even checking to make sure that each BMD correctly produces a

22   ballot for each -- for the entire set of candidates in every

23   race.

24   You don't have to test necessarily every permutation

25   of candidates in order to check that. But the least that I

1   would expect from an L&A procedure would be that it checks that

2   each BMD can correctly mark a ballot for each candidate.

3   And as we have heard today, because of the length of

4   the Senate race, many BMDs apparently will not even be tested

5   to make sure that they can print a ballot that is marked for

6   each candidate in the presidential race. And that concerns me

7   because a particular BMD might have a corrupted somehow copy of

8   the database -- of the programming that goes into it.

9   And the L&A procedures, as described, because they

10   don't involve printing a ballot from each BMD that has been

11   marked for every candidate, wouldn't be able to pick up that

12   problem. You have to actually test that each candidate has

13   been marked and can be tabulated correctly.

14   THE COURT: Wait a second.

15   DR. HALDERMAN: Apparently someone is sawing on the

16   outside of my building, and I may have to quickly move to

17   another room.

18   But I think I have addressed the points that I had in

19   mind. But I'm very happy to answer any questions.

20   MR. CROSS: Dr. Halderman, just a couple of follow-up

21   questions. And the Court may have questions or Mr. Russo.

22   In your experience looking at elections over the

23   years, is there any election that comes to mind where a state

24   was replacing the software with new software less than two

25   weeks before the --

1   DR. HALDERMAN: No, nothing comes to mind. This

2   is -- this is not a typical procedure to be going through. In

3   an emergency, perhaps you would need to. But even then, it

4   would be an extremely risky thing to be doing both from a

5   correctness standpoint and from a security standpoint.

6   MR. CROSS: And just two final questions. Are there

7   real world examples you have seen where a software change that

8   even had been fully vetted and was intended to fix one discrete

9   problem that that then had unintended consequences that were

10   quite significant?

11   DR. HALDERMAN: Well, the most significant recent

12   example, of course, is the 737 MAX aircraft where after most of

13   the testing had been completed Boeing introduced what they

14   believed was a relatively small design change to the control

15   system that they didn't believe needed to be rigorously tested

16   because it was the equivalent of de minimis.

17   But that unfortunately reportedly had fatal

18   consequences and has been tied to crashes that have killed

19   several hundred people. But I think that is an illustration.

20   I think it is a good parallel because both the Georgia election

21   system and the aircraft are examples of complex software

22   systems.

23   Georgia's election system is millions of lines of

24   source code that are in the Dominion products. And for that

25   reason, small, even seemingly trivial changes can have

1   consequences that are difficult to understand.

2   It is just -- it is why we normally in the voting

3   system testing and certification process demand such extended

4   testing for accuracy. That kind of testing can't necessarily

5   rule out security problems. But it does a lot to help ensure

6   that votes are going to be counted correctly in the absence of

7   an attacker.

8   And it is those processes that are being bypassed

9   here and substituted with apparently less than a week of -- of

10   very rapid-fire testing of some sort. Nothing like the testing

11   that goes into a voting system in the course of a normal

12   software change.

13   MR. CROSS: Last question, Dr. Halderman. You

14   mentioned that the LAT, the logic and accuracy testing --

15   **(There was a brief pause in the proceedings.)**

16   MR. CROSS: Dr. Halderman, you said that there is a

17   clear signature of testing under this L&A process. For

18   example, the candidates are selected in the same position.

19   DR. HALDERMAN: Yes.

20   THE COURT: Does anyone have somebody speaking in the

21   background?

22   **(There was a brief pause in the proceedings.)**

23   MR. CROSS: It seems like it got quieter. Is this

24   better?

25   Okay. Let me try it again.

1   Dr. Halderman, the question was: You said that there

2   is a clear signature for the machine to see that it is being

3   tested during the logic and accuracy testing. One example, of

4   course, is all the candidates are in the same position; right?

5   They are all selected in Position 3.

6   Just to show the Court this is not a hypothetical

7   concern, that the malware can trick the machine during testing,

8   is there a real world example of where that has happened?

9   DR. HALDERMAN: Of where malware would -- of malware

10   detecting such a thing?

11   MR. CROSS: Yes. Testing and then --

12   DR. HALDERMAN: Detecting testing. Well, of course,

13   the prominent example of that is the BMW -- excuse me -- the

14   Volkswagen emissions testing scandal, Dieselgate scandal, where

15   Volkswagen programmed its emission systems to detect -- they

16   were going through EPA testing and emit less pollutants under

17   those circumstances.

18   So the parallel here is detect that the ballot has

19   been marked in the same position across all races and in that

20   case don't cheat; otherwise, cheat with some probability. That

21   would be -- for malware running on a BMD, that would be

22   absolutely a simple thing to program.

23   MR. CROSS: Thank you, Your Honor.

24   THE COURT: Let me just make sure I understand from

25   your perspective what this meant in terms of the testing

SEALED TRANSCRIPT   74

1   that -- in terms of the printing of ballots. Any time -- any

2   ballots -- let's say that there were -- because we were using

3   the example previously of four, that there would not be ballots

4   printed with -- that would reflect any other ballot choices as

5   you -- as they -- for any of the -- any of the times where

6   people had cast ballots for candidates five and onward.

7   DR. HALDERMAN: Yes, Your Honor. My understanding of

8   the testimony we heard today is that one BMD would be used to

9   print a ballot marked in the first position across every race,

10   another the second position, another the third position, et

11   cetera and that races that had fewer than that number of

12   positions the race would just be left blank on the BMD that was

13   being tested.

14   So each BMD produces one printout that is marked in

15   one equivalent position across every race. And that, of

16   course, has the problem that for a given BMD most of the

17   possible positions that could be marked are not going to be

18   exercised all the way through being printed and being

19   tabulated.

20   So if a particular BMD has a database that is somehow

21   corrupted and programmed differently from the other BMDs under

22   testing, the problem would not be discovered.

23   THE COURT: All right. Anything else, Counsel?

24   MR. CROSS: Not for us, Your Honor. This is David

25   Cross. If they want to ask questions, they are welcome to.

SEALED TRANSCRIPT   75

1   MR. RUSSO: Your Honor, I don't think we have any

2   questions.

3   THE COURT: All right. Well, thank you-all very

4   much.

5   MR. CROSS: Your Honor, I'm sorry. There was one

6   final thing that we wanted to clear up if we could. Mr. Brown

7   sent an email in this morning. I don't know if you saw it.

8   THE COURT: No, I did not.

9   MR. CROSS: We're just trying to confirm -- Mr. Tyson

10   sent in an email indicating that there was a message that went

11   out from Mr. Harvey clarifying that there were no new databases

12   coming out as opposed to a software change. He indicated that

13   message went to the counties on Tuesday. The copies that we

14   have -- we have multiple copies from the counties -- indicated

15   it went yesterday around the same time of Mr. Tyson's email.

16   Vincent or Carey, do you know when that actually went

17   out to the counties?

18   MR. RUSSO: I mean, I believe that it is -- so we

19   looked at it earlier -- what Bruce sent. Buzz is a webface.

20   It is a web portal. So I think Mr. Harvey posted it on Buzz in

21   accordance with what Mr. Tyson represented. And the email went

22   out the following day due to however Buzz, the program,

23   populates the email that automatically goes out.

24   MR. CROSS: Okay. Thank you.

25   That is all, Your Honor. Thank you.

UNITED STATES DISTRICT COURT
OFFICIAL CERTIFIED TRANSCRIPT

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 1          THE COURT:  All right.  Thank you very much.  And

 2   we'll be -- we'll be in touch.  I mean, I'm trying to get an

 3   order out this week.  So I appreciate everyone scurrying to get

 4   this in front of me.

 5          MR. CROSS:  Thank you, Your Honor.

 6          MR. RUSSO:  Thank you, Your Honor.

 7                  (The proceedings were thereby concluded at

 8              11:32 A.M.)

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1   C E R T I F I C A T E

2

3   UNITED STATES OF AMERICA

4   NORTHERN DISTRICT OF GEORGIA

5

6   I, SHANNON R. WELCH, RMR, CRR, Official Court Reporter of

7   the United States District Court, for the Northern District of

8   Georgia, Atlanta Division, do hereby certify that the foregoing

9   76 pages constitute a true transcript of proceedings had before

10   the said Court, held in the City of Atlanta, Georgia, in the

11   matter therein stated.

12   In testimony whereof, I hereunto set my hand on this, the

13   1st day of October, 2020.

14

15

16

17   _____
     SHANNON R. WELCH, RMR, CRR
18   OFFICIAL COURT REPORTER
     UNITED STATES DISTRICT COURT
19

20

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Exhibit 5

IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF GEORGIA
ATLANTA DIVISION

DONNA CURLING, *et al.*

    Plaintiffs,

    v.

BRAD RAFFENSPERGER, *et al.*,

    Defendants.

CIVIL ACTION

FILE NO. 1:17-cv-2989-AT

<u>SECOND SUPPLEMENTAL DECLARATION OF JACK COBB</u>

Pursuant to 28 U.S.C. § 1746, I, JACK COBB, make the following declaration:

1.   My name is Jack Cobb. I am over the age of 21 years, and I am under no legal disability which would prevent me from giving this declaration. If called to testify, I would testify under oath to these facts.

2.   My background is summarized in my prior declaration, filed at [Doc. 821-6].

3.   A Voting System Test Laboratory (VSTL) can submit its letter report about a software change to the EAC at any time, but the EAC will not take action until an ECO is received from the manufacturer.

1

4.   Pro V&V finalized its letter report on Friday, October 2, 2020. It sent that letter report to the Georgia Secretary of State the same day and also sent it to the EAC directly. A copy of the email I sent to Jerome Lovato and Mona Harrington at the EAC on Friday is attached as Ex. 1.

5.   Also on Friday, October 2, 2020, I informed Michael Barnes that the letter report had been sent to the EAC and to Dominion.

6.   Mr. Lovato from the EAC emailed Dominion on Friday asking if they would be submitting the ECO for the change based on the Pro V&V test report they received from me. Ian Piper from Dominion then submitted the ECO on Monday, October 5, 2020 at 12:32pm. Mr. Piper then resubmitted the ECO on Tuesday, October 6, 2020 at 6:43pm. The next morning, the EAC officially requested the full analysis and documentation from Pro V&V. The email chain reflecting this sequence of events is attached as Ex. 2.

7.   On Wednesday, October 7, 2020, Pro V&V submitted its Engineer Change Order Analysis Form to the EAC along with the supporting documentation. The ECO Analysis Form is attached as Ex. 3.

8.   When the EAC finishes its process and agrees that the change is *de minimis*, it will notify Pro V&V and Dominion. That notification has not yet been received. At this time, I see no reason why the EAC will not agree

with our determination and I expect the EAC to approve the change as *de minimis.*

I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct. Executed this 9th day of October, 2020.
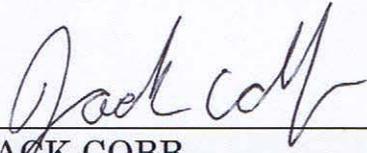
_____
JACK COBB

EXHIBIT 1

From: Jack Cobb
Sent: Friday, October 2, 2020 4:04 PM
To: Jerome Lovato <jlovato@eac.gov>
Cc: Mona Harrington <mharrington@eac.gov>
Subject: FW: DVS ICX 5.5.10.32

Just FYI, this is being filed with in Federal Court COB today.

From: Jack Cobb
Sent: Friday, October 2, 2020 3:58 PM
To: 'Barnes, Michael' <mbarnes@sos.ga.gov>
Cc: Wendy Owens <wendy.owens@provandv.com>
Subject: DVS ICX 5.5.10.32

Mr. Barnes,
        Please see the attached letter containing the evaluation of the ICX 5.5.10.32 software that you requested. If you have any questions feel free to contact me or Wendy Owens.

Thanks
Jack Cobb

Jack Cobb
6705 Odyssey Drive
Suite C
Huntsville, AL 35806
Office: 256-713-1111
Fax: 256-713-1112
Cell: 256-683-6971

EXHIBIT 2

From: Jerome Lovato <jlovato@eac.gov>
Date: October 7, 2020 at 11:36:50 AM CDT
To: Ian Piper <ian.piper@dominionvoting.com>, Wendy Owens <wendy.owens@provandv.com>
Cc: Paul Aumayr <paumayr@eac.gov>, Mona Harrington <mharrington@eac.gov>, Jack Cobb <jack.cobb@provandv.com>
Subject: Re: [EXTERNAL] DVS ICX software ECO

Good morning Wendy,

Will you please send us the analysis and all associated documentation for this ECO?

Thank you,
Jerome

On Tue, Oct 6, 2020 at 6:43 PM Ian Piper <ian.piper@dominionvoting.com> wrote:

> Jerome:
>
>
> To clarify, Dominion Voting Systems is submitting ECO 100714 (please see attached) for review by the EAC as a software de minimis change. ProV&V has provided the EAC with the Letter Report (LR-01-02-GA-ICX) that they produced for a state level review of the change.
>
>
> If you have any questions regarding this ECO, please let me know.

Sincerely:

IAN S. PIPER | CERTIFICATION DIRECTOR

DOMINION VOTING SYSTEMS, INC.

1201 18th Street, Suite 210, DENVER, CO 80202

866-654-VOTE (8683) | DOMINIONVOTING.COM

720-257-5209 OFFICE (x9221)

703-244-3180 MOBILE

From: Ian Piper
Sent: Monday, October 5, 2020 12:32 PM
To: 'Jerome Lovato' <jlovato@eac.gov>
Subject: RE: [EXTERNAL] DVS ICX software ECO

Jerome:

Attached is ECO 100714 that is associated with the VSTL Test Report that you received from ProVV on ICX 5.5.10.32.

If you have any questions, please let me know.

Sincerely:

IAN S. PIPER | CERTIFICATION DIRECTOR

DOMINION VOTING SYSTEMS, INC.

1201 18th Street, Suite 210, DENVER, CO 80202

866-654-VOTE (8683) | DOMINIONVOTING.COM

720-257-5209 OFFICE (x9221)

703-244-3180 MOBILE

From: Jerome Lovato <jlovato@eac.gov>
Sent: Friday, October 2, 2020 5:38 PM
To: Ian Piper <ian.piper@dominionvoting.com>
Subject: [EXTERNAL] DVS ICX software ECO

Hi Ian,

I was forwarded a test report for the DVS ICX 5.5.10.32 from Pro V&V. Will you be submitting a software ECO to the EAC for this change?

Thank you,

Jerome

that any dissemination, distribution, copying or use of this email or its contents is strictly prohibited. If you have received this email in error, please notify the sender by responding to the email and then immediately delete the email.

EXHIBIT 3

PRO V&V
VERIFICATION VALIDATION

ENGINEER CHANGE ORDER (ECO) ANALYSIS FORM

Manufacturer:	Dominion Voting Systems
System:	ImageCast X
ECO Number:	100714
ECO Description:	Updated ICX application to provide proper screen rendering of a multi-column contest when a multiple of other factors are combined with this contest display mode.

Overview:

Updated ICX application to provide proper screen rendering of a multi-column contest, when scrolling is turned off, when using a large database, and when specific user actions are required. This combination of factors is rare and the manifestation only affects the display of that multi-column contest and can only occur once per cycling of the machine.

Products Affected: ImageCast X

Add:

ICX 5.5.10.32 Application Software for use with election databases displaying a contest using multiple columns.

The software will be used with the following EAC certified Democracy Suite (D-Suite) system:
5.5-A

The software will be used with the following state certified Democracy Suite (D-Suite) system:
5.5-A (GA)

Supporting Documentation:
ECO 100714 ICX 5.5-A Update *(Dominion ECO)*

Engineering Recommendation:
Source Code Review, Witness Build, and Accuracy testing performed to approve change. Based on the review of the source code and nature of the change, Pro V&V recommends the change be deemed as de minimis. Based on the testing performed and the results obtained, it was verified through source code review and functional testing that the issue found in ICX version 5.5.10.30 can't be reproduced in ICX version 5.5.10.32. No additional testing is required.

Engineering Analysis: De Minimis **-** No Testing Required

Reviewer:	Approver:
Wendy Owens	Jack Cobb
Printed Name	Printed Name
Wendy Owens	*Jack Cobb*
Signature	Signature
10/07/2020	10/07/2020
Date	Date