

June 7, 2023

Dear Madam Secretary and Director Adkins,

Thank you for the opportunity to testify on the certification of ES&S 6.2.0.0 and 6.3.0.0. I along with about ten other citizens came to Austin from across Texas to speak during public comments about the Voting System Examination for ES&S.

I was dismayed upon arrival that no examiner was in attendance to answer or ask any questions that were posed by the public. It frankly was insulting that no one showed up to hear our concerns. Since this was an open meeting, at the very least whoever called the meeting should have been in attendance. I also believe the technical examiners should have been there since we were testifying about their reports.

I hope that you will watch the videos of each person who testified because there were many issues that were revealed and problems in the technical examinations that need to be addressed by your office **before** certification of these machines.

As you know, there are ten standards that must be met for voting systems to be used in Texas. These are found in Texas Election Code 122.001 (a)

During my speech, I posed many questions and issues related to these standards. I am requesting your response to each of these questions **before** certifying any ES&S machines.

1. Are you aware that across the state when comparing county to state numbers for the 2022 Primary (and other elections) there is not a match? Voters are added and subtracted well after the election has been canvassed and certified and officially reported. These changes occur months and even years after the election. Your office says that you do not modify, alter, or change records supplied from the county. So why do these official results not match? Could these discrepancies be a result of the ES&S system? Please do not certify these machines until you know the source of these discrepancies. Otherwise, this system may be in violation of standard 10.
2. In Mr. Mechler's ES&S EVS 6.1.1.0 Technical Examination Report, there is a troubling bug that was uncovered in the hash validation process that produced a false positive. It appears that "most of the issues" with the hash validation were fixed in EVS 6.2.0.0. However, I did not see in the reports for EVS 6.2.0.0 or EVS 6.3.0.0 that the rest of the issues were fixed. In fact, throughout all the examiner reports, there is uncertainty and vague language. When will these known issues and conditional points be addressed? One person testified that they had a condition placed on their voting system 15 years ago that still has gone unaddressed. What mechanisms do you have in place to ensure that the issues will be addressed? I believe no conditional or real issues should be tolerated. Every one of these issues should be resolved **before** the machines are certified for use in Texas. Otherwise, Standard 4, which mandates that election machines must be SAFE from fraudulent or unauthorized manipulation, would not be satisfied. When will these issues be resolved?
3. Another concern that I have is regarding the Ballot image export. I have read the patent documentation that says that the DS200s are high-speed, high-resolution scanners that scan at 200dpi. Yet, when I have asked for public records of the ballot images in the original format AND original resolution, the county can only produce pdfs at 91dpi.

Why is ES&S intentionally downgrading the exported images?

Is this a modification of election records? If so, that would be a purported violation of Texas Penal Code 37.10 which is a 2nd degree felony violation for modifying election records. At the very least, the fact that we are not able to receive images in the original resolution of the scans violates Standard (10)—which requires-providing records from which the operation of the voting system may be audited.

See Addendum A for copies of images.

4. On Oct 14, 2021, Collin County allowed citizens to look inside of a DS200 and take pictures. We noticed pins on the motherboard labeled "Socket Modem Pins". Does that indicate a Modem on the back side of the Motherboard? Can you confirm with documentation that there is no modem in the DS200s in Collin County?

Based on my reading of the EAC guidelines, if there is a modem, the EAC certification would be voided and thereby violate standard 3 which requires compliance with EAC standards. Based on TEC 127.123 (1) You need to validate that there are no modems in the tabulators in Collin County before any certification is given and confirm that the presence of a modem does not invalidate EAC compliance. Otherwise, you will be in violation of Standard 3. See Addendum B for image taken on Oct 14, 2021, of inside of DS200.

5. The contract between ES&S and Collin County has a component called an iDRAC8, which is an integrated Remote Access Controller. Collin County maintains that this component in the server is used specifically to print the "by mail" ballots and that it is not part of the tabulation system that counts or accumulates vote totals. Yet, the question remains—is this a potential vulnerability for someone to remotely access our mail ballots and send out ballots that were not requested by the actual voter? I have been advised by two computer science experts that this component cannot be removed, and that removal of this component would not allow the computer to turn on. The presence of this component would violate Standard 4 of the code. See Addendum C for image of contract.

6. Why are the tests for the state not including penetration tests—like white-hat hackers? Texas is a big state that influences other states. We should be leading the way.

7. There are multiple concerning quotes (not exhaustive) from the Technical Examiner Reports. I have collected several quotes from the reports. See Addendum D. Several of the Examiners gave conditional recommendations. Who is going to monitor whether these conditions are met and adhered to?

In addition to these questions, I am also attaching several links to documents that need to be included in the record of the certification for these machines. See Addendum E.

Please review the entirety of this document and the links provided before you rubber stamp the certification of ES&S. I hope you will reconsider your recommendations to certify these machines.

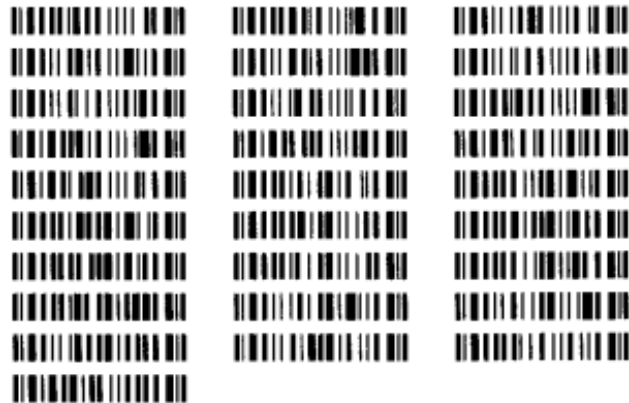
Sincerely,

Debbie Lindstrom

Addendum A- Images of Ballot Images provided by Collin County



00000018 AU05928
COLLIN COUNTY/TEXAS
GENERAL AND SPECIAL ELECTIONS
11/03/2020
010 BS 12, 010 BS 12



PRESIDENT / VICE PRESIDENT	REP DONALD J. TRUMP
UNITED STATES SENATOR	REP JOHN CORNYN
UNITED STATES REPRESENTATIVE DISTRICT 30 DISTRICT 30	REP VAN TAYLOR
RAILROAD COMMISSIONER	REP JAMES "JIM" WRIGHT
CHIEF JUSTICE, SUPREME COURT	REP NATHAN HECHT
JUSTICE, SUPREME COURT, PLACE 6, JAMES H. LAMAR TERM	REP JANE BLAND
JUSTICE, SUPREME COURT, PLACE 7	REP JEFF BOVD
JUSTICE, SUPREME COURT PLACE 8	REP BRETT BUSBY
JUDGE, COURT OF CRIMINAL APPEALS, PLACE 9	REP BERT RICHARDSON
JUDGE, COURT OF CRIMINAL APPEALS, PLACE 4	REP NEVEN PATRICK YEARY
JUDGE, COURT OF CRIMINAL APPEALS, PLACE 8	REP DAVID NEWELL
STATE REPRESENTATIVE, DISTRICT 75 DISTRICT 75	REP SCOTT SANFORD
JUSTICE, 5TH COURT OF APPEALS DISTRICT, PLACE 2	REP DAVID EVANS
JUSTICE, 5TH COURT OF APPEALS DISTRICT, PLACE 6	REP JOHN BROWNING
JUSTICE, 5TH COURT OF APPEALS DISTRICT, PLACE 8	REP BILL WHITENELL
DISTRICT JUDGE, 199TH JUDICIAL DISTRICT	REP ANGELA TUCKER
DISTRICT JUDGE, 20TH JUDICIAL DISTRICT JAMES H. LAMAR TERM	REP TOM MONAHAN
DISTRICT JUDGE, 20TH JUDICIAL DISTRICT	REP BEN SMITH
DISTRICT JUDGE, 491ST JUDICIAL DISTRICT	REP JONAS FLINT
DISTRICT JUDGE, 416TH JUDICIAL DISTRICT	REP ANDREA THOMPSON
DISTRICT JUDGE, 466TH JUDICIAL DISTRICT	REP LINDSEY NYMAZ
DISTRICT JUDGE, 490TH JUDICIAL DISTRICT	REP ROPER MCCRACK
DISTRICT JUDGE, 475TH JUDICIAL DISTRICT	REP EMILY MISSEL
DISTRICT JUDGE, 471ST JUDICIAL DISTRICT	REP ANDREA BURESSA
SHERIFF	REP JIM SCHMIDT
COUNTY TAX ASSESSOR-COLLECTOR	REP KENNETH L. MAUN
COUNTY COMMISSIONER, PRECINCT 12, 2 PRECINCT 3	REP DARRELL HALE
CONSTABLE, PRECINCT NO. 2 PRECINCT 2	REP GARY EDWARDS

DEM JOSEPH R. BIDEN

REP JOHN CORNYN

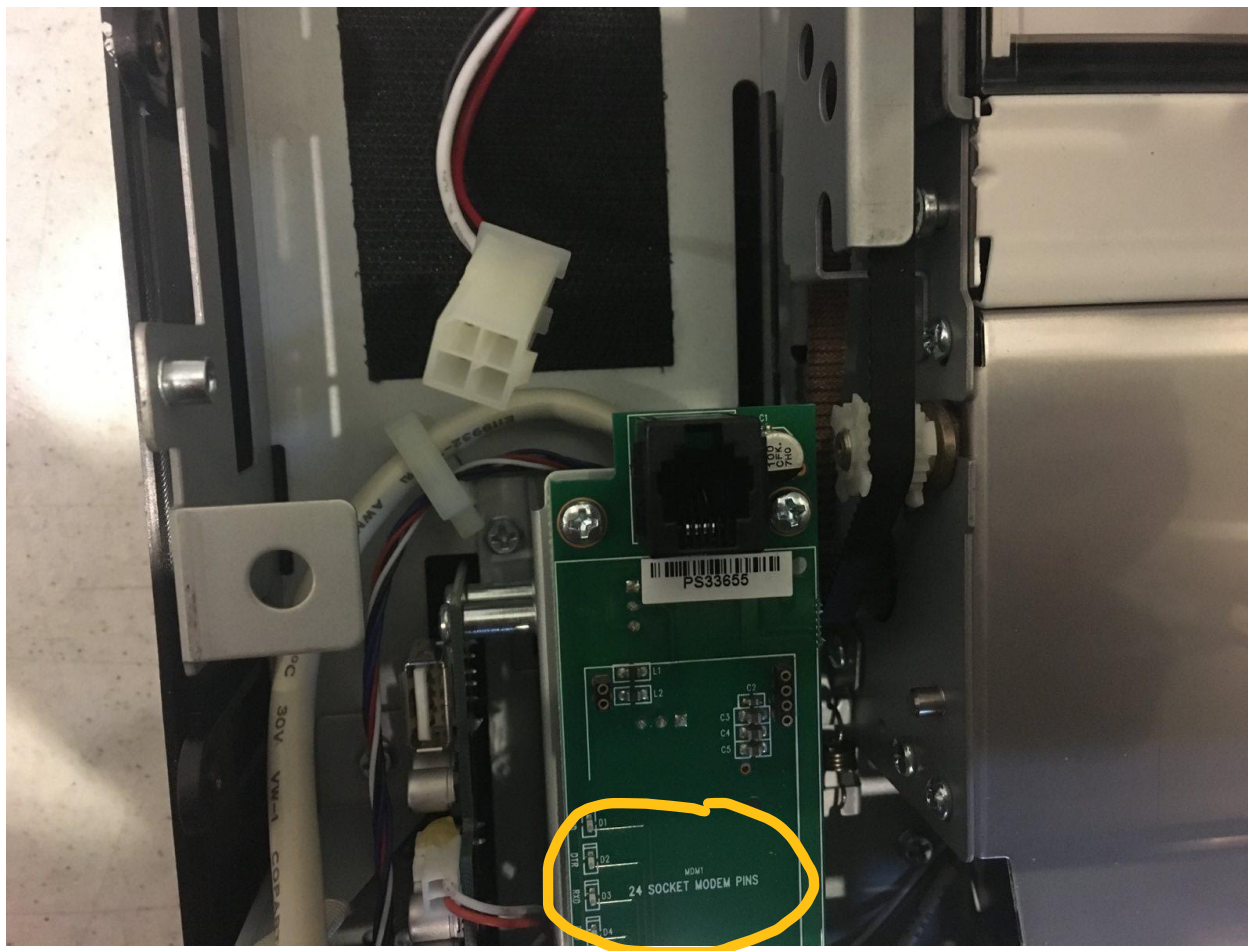
REP VAN TAYLOR

DEM CHRYSTA CASTAÑEDA

REP NATHAN HECHT



Addendum B – Inside of DS200 taken in Collin County on Oct 14, 2021



Addendum C- Snip of the Collin County Contract with iDRAC8 listed.

		\$1,200.00	\$1,200.00
	PowerEdge T430 Server, No TPM • Chassis with up to 8, 3.5" Hot Plug Hard Drives, Tower Configuration Intel® Xeon® E5-2620 v3 2.4GHz, 15M Cache, 8.00GT/s QPI, Turbo, HT, 6C/12T(85W) Max Mem 1866MHz • 1 CPU Standard • 2133MT/s RDIMMS • (2) 4GB RDIMM, 2133MT/s, Single Rank, x8 Data Width • RAID 1+ RAID 1 for H330/H730/H730P (2 + 2 HDDs or SSDs) • PERC H730 RAID Controller, 1GB NV Cache • (4) 2TB 7.2K RPM SATA6Gbps 3.5" Hot-Plug Hard Drive • On-Board Broadcom 5720 Dual Port 1Gb LOM • iDRAC8, Basic • DVD+/-RW, SATA, Internal • Casters for PowerEdge TowerChassis • Power Saving Dell active Power Controller • Dual, Hot-Plug, Redundant Power Supply (1+1), 750W (2) NEMA 5-15P to C13 Wall Plug, 125 Volt, 15 AMP, 10 Feet (3m), Power Cord, NorthAmerica • Keyboard and Optical Mouse, USB, Black, English - Windows Server 2016, Standard Ed, Factory Inst, No MED, 2SKT, 2VM, NO CAL - Downgraded to Windows Server 2008 R2 Windows Server 2016, STD Ed, Media Kit w/Factory Inst ENT DGRD Images 5-pack of Windows: Server 2016 Device CALs (Standard or Datacenter) • 5 Year ProSupport and NBD On-Site Service		

Addendum D: Concerning Quotes from Technical Examiner Reports:

Brandon T. Hurley	6.2.0.0 It is not clear if all of the improvements would be useful or permissible under Texas law. Things such as the Regional Reporting function should be scrutinized to see if this and other new functions can be used by the local jurisdictions in their elections. This report should not be construed as a tacit or implied comment on any of the technical aspects of the ES&S 6.1.0.0 System except as expressly stated herein. In the event any of the equipment, software or security devices examined are altered, changed or decertified by any accrediting agency (other than a "minor modification qualified for administrative certification process" as that term is defined in § 81.65 of the Texas Administrative Code), this report should be considered withdrawn. 6.3.0.0 On the Express Vote device, the summary vote card on several voted ballots came out with smudged or "spotty" bar codes on the vote summary ballot. Consequently, those same ballots were not readable on the ES200 and ES300 ballot tabulator/reader devices. There was also a discussion about a potential problem with the thermal printer inside the Express Vote that prints the summary ballot (dust, dirt, calibration, etc.). An issue arose in the scanning of ballots due to jams on DS300 machine and the way the jam was cleared. The question arose if the instructions related to the jam made it clear if the ballot had been counted and gave the voter/poll worked adequate information on what to do with the jammed ballots. This imprinter raises issues with the secrecy of the ballot if it uses sequential numbers and it may also cause problems with document feeds based on what examiners witnessed. In feeding ballots into the DS300, an additional issue appeared about scanning the smaller "Vote Summary" ballots in the lower feed slot. Also, the issues with the "smudged" bar codes occurred again, but only on one ballot that was on the top narrow ballot packet. Also, it was noted that the problem may have occurred because the printer on the Express Vote had not fully warmed up. After another round of cast ballots with and without the imprinter installed, it became clear that the imprinter had no value and possibly caused some jams. I recommend that the ES&S 6.3.0.0 System be certified as compliant with the requirements of the TEXAS ELECTION CODE and the TEXAS ADMINISTRATIVE CODE with the express condition that I would NOT recommend the use of the imprinter discussed above on the DS300 or any other tabulator device in the System be part of any certification. I would also recommend that the Regional Reporting function of the System be further scrutinized to determine if it serves a needed purpose in Texas jurisdictions. Also, I would suggest a condition of certification include additional instructions or training from ES&S concerning the paper/smudge issues and how the issue should be handled by the local jurisdictions.
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	In the event any of the equipment, software or security devices examined are altered, changed or decertified by any accrediting agency (other than a "minor modification qualified for administrative certification process" as that term is defined in § 81.65 of the Texas Administrative Code), this report should be considered withdrawn .
Brian Mechler	6.2.0.0 The “Card Stub Support” feature was not demonstrated during the exam and I don’t feel comfortable recommending use of this feature without Texas examiners getting a chance to observe it and understand its use-case. Designing an election using a multi-card voting session should be avoided if possible since it would require significant modifications to poll worker training and voter expectations. During ad-hoc testing, a paper jam resulting from atypical voter behavior caused one of the ExpressVote units to stop accepting new vote summary cards. ES&S should attempt to recreate and understand the root cause of this issue Use of the ExpressLink and ExpressVote ActivationCard printer was not observed during this exam Most of the Toolbox modules were not demonstrated Toolbox should never be installed on the same host as the Electionware EMS. The TDP does not address how the host running Toolbox should be secured. Since USB media will be introduced into this outside system, I recommend precincts physically secure the host computer running Toolbox according to the same best practices outlined by ES&S for Electionware workstations. Furthermore, the hosts running Toolbox should be run in a standalone fashion not connected to any networks. To address concerns about confusion between the official EMS and the Regional Results EMS at the central site, the vendor suggested that users of the Regional Results EMS only be granted the rights of “reporting” users, that way they cannot access other features of that EMS host such as election definition and ballot creation. The vendor also indicated that they could restrict the licensing on the Regional Results EMS hosts to prevent non-reporting activities. Unfortunately neither of the above mitigation practices are documented in the TDP made available to the examiners. In the available documentation, best practices for the use of Regional Results are scant. I recommend that the Secretary of State only approve vendor contracts that include Regional Results in the narrowest of circumstances where physical delivery of unofficial results on election night is a substantial challenge for the jurisdiction In [27] multiple issues with ES&S’s prescribed hash verification procedures were identified and described. These issues included an install method which resulted in one file failing the verification check, a bug in their verification scripts which gave misleading output under certain circumstances, lack of traceability in the EMS host verification process, and a general impression that the verification procedures and their importance to election security were not taken seriously by ES&S. ES&S has addressed MOST of these issues in EVS 6.2.0.0. A couple of new issues with hash verification were uncovered during the exam

	The other issue is that the prescribed OS for the verification host, Ubuntu 16.04.1 LTS, is out-of-date. In response to this issue, ES&S rightly pointed out that the Extended Security Maintenance window for Ubuntu 16.04.1 LTS extends until April 2026. This is a moot point, the support and maintenance windows are only relevant if one is receiving regular system updates. However, the exam was not without issue. There were features introduced in EVS 6.2.0.0 that were either not well documented, not demonstrated during the exam, or both. Great improvements were made to the hash verification procedures, but at least one minor and one major issue remains. I recommend EVS 6.2.0.0 be certified for use in Texas only under the following conditions: 6.3.0.0 During the mock election on Jan-25 there was an issue with the thermal coating on some of the card stock used for the vote summary cards. As a result the ExpressVote could not perform its check of voter selections against the information encoded in the barcodes. Subsequent to the January exam, ES&S reviewed the bad batch of ballot cards and reported that they had not been stored or transported properly prior to the exam. Unfortunately this issue was seen again during the follow-up exam on Mar-31; however, on that day only the first few cards out of the pack suffered from printing issues Figure 1 shows the screen presented to the voter when the barcode(s) could not be read by the ExpressVote. This messaging is sub-optimal, the machine should not direct anyone to spoil a ballot. That decision should be left to the discretion of the voter, poll worker, or election judge. Fortunately, the messaging on this error screen is configurable. Those performing the coding of elections, including ES&S, should carefully review and craft instructional messaging to avoid confusion. I recommend that any certification orders 5.1 Observations 6.1 Observations place a condition on the DS300 that it may not be used with the imprinter cartridge installed. Since the imprinter cartridge is a consumable sold by ES&S, it should not be delivered nor included in any sales contracts with jurisdictions. I recommend EVS 6.3.0.0 be certified for use in Texas only under the following conditions: • Sale of Regional Results is restricted to counties that suffer significant impediments to timely reporting of unofficial results • The Texas Secretary of State defines a set of policies and procedures which counties must follow to ensure the secure use of Regional Results • The DS300 scanner may not be used or sold with the imprinter cartridge installed
Christina Adkins	6.2.0.0 The technical examiners identified concerns regarding the hash validation process and the regional reporting process. Those concerns do not affect the reliability, accuracy, or security of the system if proper procedures are followed, In particular, I agree with our examiner's recommendation that the vendor seek an engineering change order ("ECO") to update the operating system used in the verification process to a more modern version of Ubuntu.

	Texas jurisdictions are required to successfully complete this process during the Logic and Accuracy testing for each election under Texas Election Code 129.023(c-1), so the hash validation process should be implemented in a way that can be understood by jurisdictions with low technical knowledge, while maintaining the accuracy and integrity of the process. In the course of the exam, the examiners expressed concerns about whether the Regional Results module had been adequately documented in the TDP documentation that was submitted to the EAC and included in the certified documentation that was submitted to our office In order for this process to be used in a secure manner that complies with Texas law, jurisdictions using this module will have to be diligent about segregating the backup media containing the unofficial results that are electronically transmitted and the original media containing the official results that are physically delivered without network interaction. However, jurisdictions should be cautious about using this feature in a manner that would allow voters or other individuals to track the choices made by a specific voter on their ballot, and the vendor should refrain from marketing this feature in such a manner. Specifically, I would recommend that a condition be placed on the certification of the EVS 6.2.0.0 system that the Regional Results module will not be considered a part of the certified system until the following two modifications are submitted for review and approved by the Secretary of State's Office I would also recommend that a condition be placed on certification of this module that the use of the Regional Results module must be consistent with the procedures prescribed by the Secretary of State's Office because the EVS 6.2.0.0 system complies with the necessary requirements for certification of a voting system under Texas law, I would recommend certification of the system with this module, subject to the conditions described above
Charles Pinney	6.3.0.0 In the course of the first two days of testing, the examiners expressed concern with two different issues that ultimately required a subsequent examination of those components of the system. I would recommend that the vendor make adjustments to these procedures based on the feedback of the examiners. During the testing of the DS300, a paper jam issue was identified under specific conditions. Upon further examination, it was determined that the full-size ballot was counted but the ExpressVote card was not counted I would recommend that the DS300 be certified with a condition that the imprinter will not be installed. I would also recommend that a condition be placed on certification that the use of this module is only considered within the scope of the certification of this system if the

	module is used in accordance with any procedures prescribed by the Secretary of State's Office under Election Code 127.1231(b) During the course of the exam, the examiners voted a number of test ballots from a specific batch of ballot stock provided by the vendor that experienced issues with the thermal printing. Because EVS 6.3.0.0 complies with the necessary requirements for a voting system under Texas law, I would recommend certification of this system, with a recommendation that the following conditions be placed on the certification of this system: • That the imprinter attachment will not be installed on any tabulation devices used with the system; and • That the Regional Results module must be used in accordance with the procedures prescribed by the Secretary of State's Office under Election Code 127.1231(b) in order for the module to be considered within the scope of the certification of this system
Robert Thomson	6.2.0.0 Although listed in the Application for Texas Certification – Form 100 dated Jun 22, 2022, the following components were not included in the EAC's certification of EVS 6.2.0.0 system: • ExpressLink • ExpressVote Activation Card Printer • Paperballot • Toolbox As such, they were not part of this examination. Although all examiners recommended certification of both EVS 6.1.0.0 and EVS 6.1.1.0, they also identified specific concerns in one or both versions that they collectively indicated ES&S should address in subsequent system versions: • ES&S provided an optional method for setting Microsoft Windows' password to not expire on an EMS computer. Removing this option and requiring a password change at least yearly was strongly recommended. One examiner noted that an Election Security Best Practices Guide published by the Secretary of State's Office suggests forced password updates every 90 days. (EVS 6.1.1.0) • Hash verification of software installation has been a complicated and error-prone process. Because it is vital for each jurisdiction to confirm that only software and/or firmware certified by EAC is installed on each hardware device or computer, the examiners have strongly recommended the process be significantly improved. (EVS 6.1.1.0, EVS 6.1.0.0) The latter of these concerns is addressed in EVS 6.2.0.0 Although this documentation appears clear and complete, the verification process itself remains timeconsuming with multiple steps, many of which require a measure of technical expertise. Examiners expressed concern over the possibility this opens for a verification script to be modified by someone with Administrator access so that it produces a false verification result. Examiners requested ES&S investigate an approach for performing the verification in a separately booted OS on the computer being tested or, alternatively, an approach using a separate PC. Confidence that the software on the Election Management System has been independently verified is critical.

Currently, ES&S documentation for using this new application is limited. Further clarification is needed on deployment and administration of Regional Results computers as well as on the processes for using Regional Results correctly, unambiguously, and securely during an election.

As noted above, I recommend the vendor continue improvements with a focus on independent verification for its software systems.

However, I believe the possible problems and limited documentation noted above must be addressed for the application to be used with confidence.

6.3.0.0

Examiners also conducted ad hoc testing of this equipment. Ballot jams occurred during DS300 scans in this testing. Also observed was ExpressVote printing ballots whose bar codes were unreadable. This latter problem was linked to gaps in the bar images on those ballots; it was attributed to irregularities in the thermal card stock.

Concern arose among examiners regarding multiple revisions of the ExpressVote and the DS200 hardware that ES&S submitted to Texas for EVS 6.3.0.0 certification. The issues were (1) how did revisions differ for each device, (2) was each revision tested and certified by the EAC for this EVS release, and (3) was each revision presented to the examiners for EVS 6.3.0.0 certification.

During the exam, the DS300 equipment under test repeatedly jammed when ballots were inserted in both the upper and lower slots with the second ballot feeding immediately after the first before its scan completed.

Because removing the imprinter eliminates the problem, and Texas currently has no requirement for ballot numbering, the use of imprinters should not be certified for any scanner supported by EVS 6.3.0.0.

During testing in the January examination of the ballot casting process, some printed bar codes had gaps in individual bars that prevented a device from successfully reading them. When this occurred, a message was displayed instructing the voter to seek poll-worker assistance. This issue occurred only when using a particular batch of cards; speculated causes were heat exposure, poor manufacturing process, or damage to card stock during manufacturing. ES&S agreed to investigate further. However, they were unable to subsequently isolate the problem's cause; they recommended that jurisdictions transport, store, and condition card stock according to ES&S documented guidelines.

	Inconsistent and imprecise labeling of component sub-versions by ES&S, the VSTL, and the EAC led to uncertainty regarding which instances of ExpressVote and DS200 had been certified by the EAC and submitted to Texas for certification. If ES&S uses a 4-digit number (e.g., "xx.xx.xx.xx") to differentiate equipment sub-versions, then their applying this convention to labeling and reporting across all equipment revisions could significantly reduce such uncertainty. For any component sub-version being deployed with a voting system seeking Texas certification, the examiners require certification by the EAC and inclusion in the examination to be unambiguous. Because removing the imprinter eliminates the problem, and Texas currently has no requirement for ballot numbering, imprinters should not be installed on any scanner this release supports. These considerations notwithstanding, this examiner finds EVS 6.3.0.0 to be an effective, highly usable voting system that complies with the necessary requirements for a voting system under Texas law. As such, its certification is recommended with the condition that imprinters not be installed on ES&S scanners deployed in Texas.
Tom Watson	6.2.0.0 The copyright dates were removed from the voting devices and scanners. They are not required and were causing a hash mismatch during the software validation process. This would be the case if a de minimis software change was made. The regional transmission uses a laptop at the regional site which communicates with a duplicate EMS server that is air-gapped from the official EMS server at the central location All transmissions of the results are FIPS compliant. The system uses a SHA2-256 hash to encrypt the data, a virtual private network (VPN), and the sFTP client/server protocol. The regional sites must be hardwired (ethernet) to the county's network. Wireless connections are not permitted. The wireless adapter on the remote laptop is disabled. The regional transmission subsystem should not be turned on until after the polls close. The hashes are compared to a list of hashes provided by the VSTL; they are not generated during the software installation from the golden image as was done previously. The EMS validation is still cumbersome and should be improved so that it takes minimal time and effort by the jurisdiction because the EMS validation is the most critical since the EMS is central to the election definition, tabulation, and reporting activity. This could be a problem when trying to reconcile the number of ballots casted on a voting machine with the signature roster. However, either card can be spoiled and re-voted if necessary. Also, a voter could walk away after inserting only one of the two cards in the scanner. The votes on the inserted card would be recorded, but the votes on the

un-inserted card would be unrecorded. If only the 2nd card was inserted, the counter problem mentioned above will occur.

6.3.0.0

Ballot jams occurred during DS300 scans in this testing. Also observed was ExpressVote printing ballots whose bar codes were unreadable. This latter problem was linked to gaps in the bar images on those ballots; it was attributed to irregularities in the thermal card stock.

The Technical Data Package (TDP) documentation appears to be updated with the new information. However, the documentation for a Regional Results setup is not adequate. It does not clearly spell out the setup and the functionality of the regional EMS versus the primary EMS.

Again, it is preferable to have imprinting done by the voting device, not the scanners

A pop-up message, "Contact the poll worker and spoil the ballot" was displayed on the screen for some of the ExpressVote ballots when they were reinserted into the ExpressVote to verify the voter's choice on the screen. ES&S claimed that it was a thermal paper problem caused by "speckled" barcodes pre-printed on them. ES&S said it was likely due to improper storage and transportation of the test ballots. Texas experiences severe weather conditions (i.e. extreme humidity, dust, etc.), so this is a potential problem. The test ballots were supplied by ES&S who saw no obvious problem with the paper prior to the examination. ES&S's explanation seems reasonable in that their representative are traveling around the country with the paper, and so it was not stored properly, as specified in the TDP.

A situation in the Dallas county November 2022 election was discussed. Some of the ballots were not tallied because their images were not uploaded into Electionware. Results and images are uploaded from separate files. Atomic programming practice should have been used. A precinct should not be tallied until both the CVR's and their corresponding images are successfully uploaded. The two steps should be treated as one transaction. If either step fails, the transaction raises an error condition. This is a flaw in Electionware which should be easy to correct.

The documentation is poor regarding how to set up and run the Regional Results sub-system. Additionally, there is a possibility that a worker may get confused as to which system (regional or primary EMS) they are working on since the EMS's appear identical. If a county uses the Regional Results, they must clearly delineate the two EMS systems and have good media (USB sticks) accounting and control.

The misreads of the "speckled" thermal ballot stock is something that should be avoided by proper ballot handling and storage. The EMS software validation on the central-site server continues to be cumbersome. It should be improved.

Addendum E – Links for the Historical Record

Dr. Walter Daugherity Affidavit: <https://t.me/qyu9e7hguh7shheruuu2374hioofh8h/63>

EAC Investigated ES&S Voting Systems: <https://siwhowhatwhy.org/politics/elections/election-assistance-commission-investigated-ess-voting-systems/>

Unrecoverable Election Screwup in Williamson County, Texas <https://freedom-to-tinker.com/2023/02/16/unrecoverable-election-screwup-in-williamson-county-tx/>

Voting Machine Hashcode Testing Unsurprisingly Insecure and Surprisingly Insecure
<https://freedom-to-tinker.com/2021/03/05/voting-machine-hashcode-testing-unsurprisingly-insecure-and-surprisingly-insecure/>