THE MAY 2022 COUNTY PRIMARY AND AUGUST 2022 COUNTY GENERAL/STATE PRIMARY ELECTIONS IN WILLIAMSON COUNTY, TENNESSEE WERE BETTER THAN OCTOBER 2021, BUT….
A number of improvements would better reflect drive for greater election integrity.

Executive Summary

On the whole, the May 3, 2022 county primary and August 4, 2022 state primary/county general elections in Williamson County, Tennessee came off better than the previous election in October 2021.

The machinery obviously functioned better since the six Dominion tabulators/scanners stopped tabulating ballots in October, but then, that election set a pretty low bar for improvement. Also, the new audit procedure, for which Williamson County is the pilot before the concept is rolled out statewide for use in the first election of 2024, went well (although since it really is only a hand re-count, we're not convinced it's the best "audit" process). The poll watching program first launched by Tennessee Voters for Election Integrity[1] and now confidently run by Tennessee Poll Watchers, was successful, allowing further insights into how it, too, can be improved.   And with new leadership there appears to be a better desire for the Commission to be more transparent in its work.   All good.

However, in order to continue the county's climb to full election integrity, it's important to look where improvements can be made. This is not meant to denigrate the election commission or poll workers, but to pinpoint where additional perfections can help the commission, its suppliers and its people perform better to ensure "transparency, fidelity and accuracy" as the Williamson County Election Commission (WCEC) chairman says.

Issues

Issues that we saw during our inspection of the machines, as well as interacting with poll officials and serving as early voting and election day poll watchers in the various voting centers include:

- **The inspection of election machines and vendor transparency**. This absolutely must be improved if the WCEC expects citizens to become more comfortable with the machines on which we are forced to vote at this moment. During our pre-election inspection of the new ES&S machines on behalf of several candidates for both the May and August elections, we were denied once again the opportunity to inspect the most critical, internal workings of these machines. No one except the machine companies themselves know how this electronic equipment actually works or what's inside it. All vendors have denied access to these machines to anyone in the state. But the machines and the elections belong to the people, not the vendors.

    We also requested a simple addition to the inspection process – the running of a hash verification prior to and after the election to help check if there were any changes to the machine and software.[2] But the WCEC also refused this. And they say it will not happen for the

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[1] https://tennesseeelectionintegrity.com/
[2] https://www.eac.gov/what-hash-validation-and-why-should-election-officials-care

November 8, 2022 election either. We sense ES&S and, possibly, the state may be driving this anti-transparency move.

- **Official election documentation** is improving, but still has flaws. The Williamson County Election Commission's mathematical and review skills have improved over the examples from the October 2021 and May 2022 elections, but, unfortunately, less information is now being tracked in the documentation than before. <u>Several poll workers' and officials' mistakes in the May primary election led the Tennessee GOP State Executive Committee to reverse the outcome of one election race after a challenge because of that documentation. A day later, they reversed that decision because of admitted mistakes by poll workers and officials</u>. The resulting key question where a candidate contests his race based on poll official reports becomes: "<u>How important is the integrity of election documentation? If what's on the official poll report that has been certified with the signatures of SIX election officials affirming that the document is correct, but it doesn't count, why is documentation even done</u>?"

- **There were a number of chain-of-custody issues with the August 2022 election**. One was a ballot marking device that appeared at a voting center yet was not on the machinery manifest. Voting using this BMD was held off until the "new" BMD could be explained.

  Another came thanks to the observations of poll watchers who saw that eleven scanners didn't have blue security tags that ensure the ballot bin compartment has not been manipulated. Seven scanners were properly fixed; three weren't. One wasn't addressed until late on voting day.

  At the audit following the August 4th election, the serial numbers of four blue security tags that "secure" the ballot compartment on scanners that were pulled out for the audit were different than the blue security tag numbers notated at the end of voting on the four poll official reports. The Chairman of the Williamson County Election Commission said we had the wrong numbers, but we're not sure how that could be as we were given the numbers of these tags by his election coordinator.

- **Delivery of election documentation remains deficient**. On Wednesday, May 4, 2022 we submitted two open records requests for election documents from the May election that include poll officer reports, scanner tapes, configuration tapes and other documentation. We ultimately learned after multiple emails and calls reminding them of the delinquency – and ten weeks of waiting -- that WCEC did not have the final two scanner tapes. A serious chain of custody concern.

  In reviewing the scanner tapes from election day August 4, 2022, we've encountered the same issue. At one time we were missing seven scanner tapes and a machine configuration tape from six different voter centers. The WCEC ultimately found the scanner tapes but had to admit that the configuration tape was lost. Again, another serious chain of custody concern.

We're also now locked in a tussle to secure a complete cast vote record report for both the May 3rd and August 4th elections. The WCEC is stalling on producing the report and we're now having to pull in a lawyer to obtain the reports that citizens are due.

Most distressing, though, is our open records request for the November 2020 election Cast Vote Record which was run on Dominion machines in Williamson County. After following up with five different emails and phone calls and receiving nothing, we had to hire a lawyer to force the CVR from the WCEC. We received it in late August, but the question is: Why did the Williamson County Election Commission refuse to answer our request for almost four months?

- Although it is merely a hand re-count and not truly an audit, **the new pilot audit** seemed to work well, helping the Commission affirm the winners in the top race on both sides of the ledger. In May, it even uncovered a test ballot that had not been cleaned out of a scanner bin before the election, a good testimony to the importance of audits. But the re-count, which tests the election's hand-count number against the machine-count number, does not fully audit the election. It doesn't test the ballots to ensure no spurious paper ballots were inserted or that the machines don't contain erroneous software or hardware code or that everyone who voted is legally allowed to vote. Additionally, it actually could have been used to help avoid two challenges in the May primary that were close (11 votes and 38 votes) and had to be resolved by the GOP State Executive Committee. Even though the Commission could include additional races to be audited in the re-count, unfortunately, the WCEC decided not to use the tool to resolve these two races. A better read of the new law needs to be completed to bring this new integrity tool to the Election Commission both in Williamson County and throughout Tennessee. And a better audit process needs to be developed that goes deeper than a simple re-count to audit the election.

- **Improvements in the voting process.** Again, while these elections were better than the October 2021 election, there are still a number of assorted improvements that we feel can be implemented to increase transparency, precision and trust in the election including:
    - A pre-election hash and a post-election hash should be run on every scanner and BMD to affirm that none of the machines and their software have been tampered with. But it can't be done using the machine brand's own systems. It must be done using an external hash source and process.
    - There should be a way for each BMD to show either on-screen or on configuration tapes how many ballots have been printed so that there are at least three datapoints in a voting center that can be compared to ensure precision documentation of the election - - # applications to vote vs. number ballots printed vs the number ballots scanned.
    - Just as the scanners are assigned to a particular voter center and reported on the official poll forms, the BMDs, likewise, should be assigned to a voter center and accounted for in the documentation. This was done on poll reports in previous elections and would further help transparency.
    - Additional vote center numbers should be tracked and reported by the poll official on their forms:
        - The number of blank ballots at each voting center at the start and end of the day/election; and

- ▪ The number of spoiled ballots for both early voting and election day.
  Tracking and reporting both will further help poll officials account for ballots that could be mis-used and better affirm transparency/integrity efforts.
  - o Election officer election day reports should contain:
    - ▪ Witness signatures (like the early vote poll forms contain);
    - ▪ End-of-day protective counts;
    - ▪ The number of applications-to-vote; and
    - ▪ Other data points that are on the early voting sheets and were previously tracked on the EV and ED reports used in the October 2021 election. Tracking this data on one sheet will help official accounting of the key election data.
  - o On forms where initials are used for witnesses, the form should include space for the witness to print/sign his/her name to give verification to the initials so witnesses can more readily be identified.
  - o When removed after the election for ballot retrieval, the red thumb drive compartment seals should be applied to the poll official form to affirm the continuity of the seal number at the end of the election.
  - o Poll officials should mark on the top of every scanner tape the voting center and scanner letter to which the tape belongs.   This was still not done on all August election tapes.

- • Other broader changes we still believe are vital for the sake of election integrity:[3]
  - o Return to precinct voting vs. vote centers voting. Security above convenience.
  - o Remove the BMDs and move back to hand-marked, high-security paper ballots to remove hackable machinery and better ensure integrity. The Secretary of State has been quoted on video as approving such a move by any county (January 25, 2022 House Local Committee presentation) and Maury County has begun this process.
  - o Remove the remaining technology of the scanner and hand count the ballots by precincts, which the October 27, 2021 audit proved could be easily done. (And cost much less than the equipment, by the way.) This hand count could become a key part of the audit.
  - o Post ballots and election officials' documentation online post-election so citizens could conduct their own audit… "The People's Audit."

This backgrounder is meant to provide insight on how well the elections in our county are being conducted, point out where there are issues impeding greater election integrity and how the processes could be improved.

Discussion
The May 3, 2022 county primary election and the August 4, 2022 state primary/county general election in Williamson County, Tennessee were both deemed successful by authorities. And when compared to the previous election in Franklin on October 26, 2021, they were much improved. So, we'll certainly give the Williamson County Election Commission its due here.

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[3] https://tennesseeelectionintegrity.com/model/

However, when considering continuous improvement and best practices, there are still a number of instances where greater attention could be paid by the WCEC to ensure that election integrity becomes paramount in Williamson County. This whitepaper will celebrate the good, but, additionally, focus on where improvements can be made to help the Commission reach true excellence in the county's voting process.

[Tennessee Voters for Election Integrity (TVEI)](#)[4] has been involved in monitoring elections in Williamson County for almost two years. Since the beginning of our efforts in late 2020, our purpose has been simple:

> *To share with state legislators, election commissions and government officials opportunities that we have uncovered in our research to plug holes we've found in Tennessee's election systems.   And for these leaders to make (and lead) necessary changes in machinery and methods that will strengthen Tennessee's leadership in election integrity while improving citizen trust and support of our election processes.*

In that time, we've monitored four elections. We hope officials will take these recommendations to heart with this mission statement in mind.

First, the inspection of election machines and vendor transparency must be improved.
Not being able to look "under the hood" of the machines was a problem for us when we inspected the Dominion machines for candidates in advance of the October 2021 election.   We asked the IT technicians point-blank to be able to see what components were inside to be sure that the machines did not contain any vulnerabilities, but we were denied. We were told we had to trust the local and state commissions and Dominion. In fact, we've since learned that no one – from the WCEC IT technicians to Commissioners, to the Tennessee State Election Commission to the State Coordinator of Elections to the Secretary of State – has been allowed to look deep into the machines.

Tennessee has purchased equipment on which we must execute our most sacred benefit as Americans – our vote – yet NO ONE knows what's inside these machines. We are told we must have faith in companies that have proven they and their products can't be trusted.

We continue to have huge problems with this denial and the results of the October 2021 election, with a major machine breakdown, a forced hand-count audit, and, subsequently, Dominion being kicked out of the county amid national security alert bulletins, merely proves why we don't trust machine vendors.

Keep in mind these machines had been approved by the Election Assistance Commission (EAC), its Voting System Testing Labs (VSTLs), the Tennessee State Election Commission and the Williamson County Election Commission and its IT technicians as being safe and secure before this happened.

Yet no election bureaucrat at either the state or county level has said much of anything about this incident, especially following the release of the [Cybersecurity & Infrastructure Security Agency (CISA) report 22-154-01 concerning the vulnerabilities affecting the Dominion Voting Systems ImageCast X](#)

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[4] https://tennesseeelectionintegrity.com/

machinery as exhibited in Williamson County.[5] Or this EAC's nationwide alert.[6] Other similar reports and news stories include this[7] and this[8] and this[9] and this.[10] Plus, the "Tennessee Error" as it has become known, has since been found in the machines in 65 of 67 counties in Georgia.[11]

The reports are pretty devastating and underscore what a lot of citizens have been saying -- that all of these election machines contain software and hardware that can be easily mis-applied or accessed by nefarious actors to change votes and election outcomes. And even the Election Assistance Commission (EAC), which is charged with certifying the security of these machines, knows this.[12]

Still, vendors refuse to allow candidates and citizens to inspect machines thoroughly.   And no entity seems interested in being transparent enough to address citizen fears here about the machines.

We're hopeful that the WCEC under its new leadership can change that. Keep in mind one suggestion we've made to commissions, legislators and government officials that they have yet to enact or even discuss is a pre-election Security Risk Evaluation of these machines until we're allowed to look inside them.[13] Unfortunately, the idea has gone nowhere.

When we were inspecting the new ES&S machines in Williamson County on Friday, April 8, 2022 for the May 3, 2022 election, we were told by the ES&S technicians that they were not going to answer questions about their machines. And, disappointedly, the WCEC supported this posture. Instead, ES&S gave us a business card and told us to send our questions to that email address/phone number and that our questions would be answered that way.

(It turned out the recipient was the ES&S PR office.) Despite doing this, we were never given answers to our questions, nor were our four subsequent voicemails returned. Nothing like a little transparency to build trust in the machinery, is there? Another step by ES&S that further ratchets up the level of distrust that citizens already have of the brand.

To his credit, the WCEC Chairman did allow us to whittle our questions down to the top 16 and he answered them by Friday, May 6th, although several answers were vague and did not fully address our

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[5] https://www.cisa.gov/uscert/ics/advisories/icsa-22-154-01
[6] https://www.eac.gov/sites/default/files/TestingCertification/EAC_Report_of_Investigation_Dominion_DSuite_5.5_B.pdf
[7] https://beckernews.com/elections-security-watchdog-blows-the-whistle-on-serious-vulnerabilities-in-dominion-voting-systems-machines-45214/
[8] https://uncoverdc.com/2022/06/06/cisa-advisory-report-admits-voting-machine-vulnerabilities-denies-exploitation/
[9] https://theconservativetreehouse.com/blog/2022/06/04/homeland-security-admits-dominion-voting-systems-have-inherent-vulnerabilities-easily-manipulated-by-local-election-officials/?utm_source=rss&utm_medium=rss&utm_campaign=homeland-security-admits-dominion-voting-systems-have-inherent-vulnerabilities-easily-manipulated-by-local-election-officials
[10] https://rumble.com/v18sodb-voting-machine-erroneous-code-doug-logans-williamson-county-tn-eac-report-r.html
[11] https://kanekoa.substack.com/p/bombshell-dominion-error-code-uncovered?publication_id=509018&post_id=76355483&isFreemail=true
[12] https://www.thegatewaypundit.com/2022/07/elections-assistance-commission-aware-machines-hacked-minutes/
[13] https://tennesseeelectionintegrity.com/wp-content/uploads/2022/03/Security-Risk-Evaluation-Process-4-FINAL-031322.pdf

questions. His response did, however, confirm that the vulnerability we saw on the Dominion EMS is also present in the ES&S election management system (EMS) – the ability to mass change vote totals.[14] Apparently, it is a common feature on most all election machinery which, if used without dual party observation, could be devastating to election integrity.

We also don't know – though we asked – how many administrative accounts are present in the machines and who controls them? And it seems that whoever has control over passwords into the voting system only forces password changes every 90 days according to the Commission's chairman. This was underwhelming to our IT security experts.

When discussing the lack of transparency on the part of the machines, here's an analogy to consider. What if you wanted to purchase a used car from us to drive to California? And we had stipulations on the purchase. No, we will not let you look under the hood, and, no, you can't take the car to a mechanic to check the brakes, and you must use the exact brand and grade of gas that we demand or there's no deal. Chances are with restrictions like that, we doubt you would buy it. Would you have any confidence in the car and its ability to get you safely and securely to California? No. Would you trust us as salesmen? No.[15] Would you be mad that no entity is protecting you from unscrupulous car dealers like us? You bet you would.

So, why should we trust the election machine companies if we're not allowed to inspect their voting machines? ES&S' response is, virtually, "it's not our problem…" Does that make you feel comfortable with their product?

And this doesn't end with the machine vendor. The Tennessee State Election Commission is just as culpable. It's their responsibility to ensure that every machine and every brand of machine used in Tennessee elections are safe and secure.[16]   After all, they are the ones who approve what voting machine companies are allowed to enter Tennessee. And they oversee the 95 county election commissions statewide. But from what we've seen, safety and security of elections does not appear to be their top focus. If it were, they'd be acting a lot differently.

At the Commission's January 10, 2022 meeting, the Hart InterCivic voting machine company presented to the Commission an upgrade of its Verity Voting 2.5 machine, so the machine could be used in Tennessee elections. What was frightening and seemed to go over the heads of every Commission member was the fact that Hart's request was to upgrade their machines in Tennessee from Windows 7 (which Microsoft stopped supporting on January 14, 2020)[17] to Windows 10. That meant that all Hart machines in the state were at high security risk during and after the November 2020 election since security patches were not being installed by Microsoft. What were administrators doing in the 25 or so counties that have Hart machines? Were they patching them? If so, how? Or did they even know they needed to be patched? Most of those county election commissions don't contain IT security expertise.

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[14] https://tennesseeelectionintegrity.com/wp-content/uploads/2022/01/Election-machines-can-be-hacked-012522.pdf
[15] https://www.youtube.com/watch?v=uG3ghaaKf80
[16] https://tennesseeelectionintegrity.com/wp-content/uploads/2022/08/SEC-cares-nothing-about-integrity-2-071822.pdf
[17] https://support.microsoft.com/en-us/windows/windows-7-support-ended-on-january-14-2020-b75d4580-2cc7-895a-2c9c-1466d9a53962

And where was the State Election Commission staying on top of this security situation? Nothing about this was in their minutes. What about the Secretary of State's IT personnel? We sent a note asking the Coordinator of Elections about this and received no answer back. Typical. This is horrible service from public servants.

The State Election Commission's process for approving machines is, mainly, to accept the word of the Election Assistance Commission (EAC) about the integrity of the machines. And the best the EAC can do in ensuring security is to certify all machines used in US elections to the EAC's **2005 standards**. Here's the EAC's own documentation of the certification level of all machines used in the state.[18]

Yes, that's right. The EAC hasn't demanded (nor have state election commissions insisted, for that matter) that machines certify to new standards that were issued in 2015 and, again, in 2021. No, these machines only meet 2005 standards. And that's embarrassing when you remember that the first iPhone was launched in 2007 and phones ever since have been meeting and exceeding continually newer and newer security protocols.

The CISA/EAC warnings about the "Tennessee Error" is an excellent example of how poorly the EAC and the SEC are doing their jobs. What good are certifications if they miss the erroneous code or QR code issues that Williamson County experienced in October 2021?

Here's another example of how these machines are scantily monitored by the EAC.

In mid-2021, the EAC quietly and without public input, approved changes in voting machinery at the request of vendors that reduces the manufacturers' cost while substantially weakens the security of voting systems.[19]   Among other changes, the revised VVSG 2.0 standards now permit inclusion of wireless networking devices in voting machines, removes the requirement for voting systems to record external connections and disconnections during voting and removes the requirement for physical locks installed in voting machines.

Cost BENEFITS for vendors. Greater SECURITY RISKS for citizens.

This questionable move cost the EAC one of their most prominent Board Members, Dr. Philip Stark, who resigned from the EAC's Advisory Board in protest of this secretive move that is contrary to the organization's mission. He is now suing the EAC and some of the disturbing claims in his lawsuit include:[20]
- "The EAC incorporated the changes requested by voting machine manufacturers into the final version of the voting system guidelines. The VVSG 2.0, as adopted by the Commission, incorporates several new provisions that reduce the cost to manufacturers while substantially weakening the security of voting systems as compared to the version of the guidelines that was submitted to the Board of Advisors, the Standards Board, and the public."

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[18] https://www.eac.gov/voting-equipment/certified-voting-systems
[19] https://freespeechforpeople.org/u-s-election-assistance-commission-sued-for-improperly-loosening-voting-system-standards-after-private-meetings-with-voting-machine-manufacturers/
[20] https://www.wtrf.com/top-stories/activists-sue-federal-agency-over-voting-system-guidelines/

- The Help America Vote Act (HAVA) prohibits the EAC from voting to adopt final guidelines until it has given both the Board of Advisors and the Standards Board 90 days to review and comment on the proposed guidelines and has "taken into consideration" their comments and recommendations. By letter dated October 2, 2018, a coalition of election security experts submitted comments to the EAC advocating for a complete ban on wireless modems in voting systems.

- Tens of thousands of public comments were submitted during a public notice and comment period advocating to "ban wireless; require hand-marked paper ballots." The EAC refused to provide these public comments submitted between February 28, 2019 and June 7, 2019 to the Technical Guidelines Development Committee (TGDC) when requested by the committee.

- On October 15, 2019, a coalition of election security non-profit organizations submitted a letter to the TGDC advocating for a ban on wireless modems and internet connectivity in the VVSG and for the first time made the TGDC aware of the volume of comments advocating for a wifeless ban that the EAC had withheld.

- In fact, the EAC held private, closed-door meetings with voting machine manufacturers on a weekly basis from July through August of 2020, as evidenced by records disclosed in response to Free Speech For People (FSFP's) Freedom of Information Act (FOIA) request. The lawsuit establishes that the EAC has negotiated the language and terms of regulations directly with voting machine manufacturers in a non-public, parallel proceeding violating the principal's transparency and open government.[21]

- Despite two separate email requests "addressed to Jerome Lovato, Mona Harrington, and Jessica Bowers of the EAC, Susan Greenhalgh of FSFP requested to join the weekly meetings between the EAC and vendors. The EAC did not respond."

That says a lot about who the EAC is looking out for. The Williamson County Election Commission and the Tennessee State Election Commission can change this, of course. Playing in the EAC sandbox is voluntary. Both commissions can demand that the EAC change their procedures to allow expert and citizen inspection of these machines. But they refuse to do so. So, they should leave the EAC.

Unfortunately, the SEC is just as bad.

Despite agreeing in 2021 to recertify all brands of voting equipment used in Tennessee,[22] the State Election Commission has done nothing with its promise to all 95 county election commissions to verify machine security and has punted the process to 2023 and 2024 without an explanation or publicized Commission decision.

This has been a complete, abject failure on the part of the Tennessee State Election Commission, the Secretary of State and his Election Coordinator and simply complicates any transparency claim.

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[21] https://freespeechforpeople.org/free-speech-for-people-v-united-states-election-assistance-commission/
[22] https://sos-tn-gov-files.tnsosfiles.com/20210405_SECMinutes.pdf

It started [on January 11, 2021, when the WCEC sent a letter asking the SEC to reexamine all Dominion voting machines](#).[23] Especially those on which Williamson Countians voted in 2020. As the Williamson County Election Administrator said in his note, reexamination needed to be done "to ensure that such machines meet the minimum criteria for certification pursuant to TCA 2-9-117" and "to maintain and ensure confidence in the sanctity of the ballot for the voters of our county."

In their April 5, 2021 meeting, the commissioners not only agreed to recertify Dominion machines, but also all five brands of voting machines in Tennessee. They even formed a subcommittee to do this. However, more than a year and a half later, nothing has been done. The issue is no longer discussed. The SEC's promise to election commissions to ensure the integrity of machines has faded away to nothing.   If we were on the Williamson County Election Commission – or any county election commission in Tennessee, for that matter -- we would be getting a little ticked that the SEC has completely ignored our security concerns. And the concerns of the citizens for whom the county commissions work. Especially given what had occurred with the Dominion machines in October 2021.

This backgrounder [here](#)[24] goes into great detail about this failure to reexamine the machines. These examples are [why consumers have no confidence in voting equipment or the commissioners of state election commissions or even the EAC and its VSTLs to protect citizens](#).[25]

All of this technology has been proven vulnerable and able to be hacked [again](#)[26] and [again](#)[27] and [again](#)[28] and [again](#)[29] and [again](#)[30]. But the entities that are entrusted to watch over the security of our elections simply refuse to ask any questions or even show a little curiosity in these concerns.

So why should we trust them and the machines that they monitor? It will be up to the Williamson County Election Commission to change this. They can voice the same discontent with these machines that their citizens have. And stand up for constituents rather than machine vendors. Or they can refuse.

One way to perhaps factor in some temporary level of trust is for the Williamson County Election Commission to implement a hash verification of each scanner before and after every election.

A hash verification is something of [a digital fingerprint (a checksum) created by performing a mathematical operation (a hash function) on the data comprising a computer program or other digital file](#).[31] Any change in just one byte of the data comprising the computer program or digital file will change the hash value. The hash value is, therefore, a unique fingerprint for any program or digital file.

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[23] https://sos-tn-gov-files.tnsosfiles.com/20210405_SECMinutes.pdf
[24] https://tennesseeelectionintegrity.com/wp-content/uploads/2022/08/SEC-cares-nothing-about-integrity-2-071822.pdf
[25] https://revealthesteal.blogspot.com/2022/06/rise-of-machines.html
[26] https://rumble.com/vtacuu-halderman-tells-congress-voting-machines-can-be-hacked-anywhere-anytime-by-.html
[27] https://rumble.com/vtah4d-congressional-members-testify-voting-machines-can-change-votes.html
[28] https://rumble.com/v15st7w-military-cyber-security-expert-why-no-county-should-use-electronic-voting-s.html
[29] https://rumble.com/vtag3o-voting-machines-can-be-infected-with-malware-to-change-votes.html
[30] https://rumble.com/v18sodb-voting-machine-erroneous-code-doug-logans-williamson-county-tn-eac-report-r.html
[31] https://www.techtarget.com/searchsecurity/definition/cryptographic-checksum

It can easily be run when the scanner is being set up and run again when the machine is being shut down following the final day of voting or when the machine returns to the Election Office.

In fact, when the EAC ran its initial tests on the Dominion machines that elicited the "Tennessee Error," it was a hash verification that first revealed the problem.[32] Think of that. Running a hash verification could have prevented all the issues that WCEC and Dominion went through in 2021 and beyond.
But it MUST be done not by the machine vendor itself but by an external entity using the ES&S reference standard hash total for each vendor version certified that is maintained by the EAC.

According to a great article on this,[33]
> "It turns out that **ES&S** has bugs in their hash-code checker: **if the "reference hash code" is completely missing, then it'll say "yes, boss, everything is fine" instead of reporting an error.** It's simultaneously *shocking* and *unsurprising* that ES&S's hash code checker could contain such a blunder *and* that it would go unnoticed by the U.S. Election Assistance Commission's federal certification process".

We requested the WCEC perform a hash verification for the May 3, 2022 primary election, but was told it couldn't be done, but was being considered. Given the complexity of getting an entirely new voting system (ES&S) up and running for that election, we gave the WCEC a little grace. It was enough that the WCEC got everything in and operational for a county-wide election in two months.

But in preparation for the August 4, 2022 state primary/county general election, the WCEC denied our request for a hash verification to be run once again. Unfortunately, there is no promise that this step will ever be taken for any future election. And that gives us great concern. In the absence of any information, we wonder if ES&S or the Secretary of State's office are driving this no-hash-verification policy? That would fit into the character that we've seen in both so far.

And if that is the case, then the WCEC is being smeared with ES&S' lack of transparency and integrity. So, again, it will be up to the WCEC and the Tennessee State Election Commission to change that.

These machines are a Black Box, and the voting machine companies refuse to make their systems and software open and transparent to the public. There's only one thing that should remain private in an election – the vote of the voter. This arrogance and lack of transparency has to change, or consumers will continue to mistrust our elections more and more.

Perhaps the Tennessee Advisory Commission on Intergovernmental Relations (TACIR) said it best about these machines way back in their 2007 staff report[34] (which was the first review of the state's entire election process, including an examination of the advantages and disadvantages of voting machines used in Tennessee).

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https://www.eac.gov/sites/default/files/TestingCertification/EAC_Report_of_Investigation_Dominion_DSuite_5.5_B.pdf
[33] https://freedom-to-tinker.com/2021/03/05/voting-machine-hashcode-testing-unsurprisingly-insecure-and-surprisingly-insecure/
[34] https://www.tn.gov/content/dam/tn/tacir/documents/trustbutverify_phase1.pdf

"Elections are the basis of democracy, and it is not acceptable for a private interest to shield a part of the election process from the voters those private interests serve. Taxpayer dollars buy the voting machines and the software, and taxpayers have the right to ensure that their investment will produce reliable results. The source code is the actual counter of votes, and that counting must be more open if the public is to accept close election outcomes."

And, sadly, that's still true today. If the WCEC and state don't listen, then these problems will continue to stain the county's and state's election commissions.

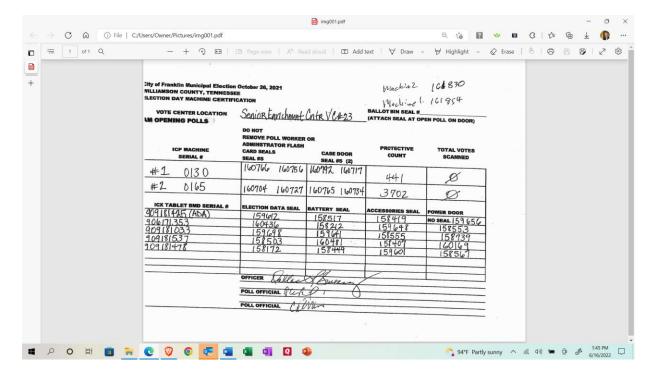**Second, official election documentation must continue to improve**.
Our position on this documentation is in sync with other election commissions and election officials -- these documents are official election documents that track what occurs in a voting center. Just like we have paper ballots so we can audit the machine counts after an election, these paper poll/voting documents are produced to be able to account for all security efforts and exactly what happens in an election. And to be able to resurrect that should the electronics/technologies fail.

After our whitepaper about the October 2021 election focusing on the disappointing share of the election documentation[35] we had hopes this would be greatly improved by now. There have been some improvements and that's commendable. But there's still room for more improvement.

The forms from the May 3, 2022 election appeared much cleaner and all vote centers submitted official poll official reports to the WCEC this time. Unfortunately, less information is now being tracked on these forms than before. We wonder why the early voting reports contained most all of the information we would expect an auditor would want to see from a vote center. But the election day forms tracked less information. That didn't make sense to us.

Here is an election day form from the October 2021 election. The WCEC used the front of the form to track the opening of the voter center and the back of the form to track its closing. Ignore the numbers but look at what is notated. Note the scanner serial numbers, as well as the protective and public count (total votes scanned) of the machines. You'll also see the serial number of the five BMDs assigned to the voting center and the signatures of the poll official and two other witnesses from the poll staff.

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[35] https://tennesseeelectionintegrity.com/wp-content/uploads/2024/07/October-26-2021-election-was-troubling-9-072224.pdf

City of Franklin Municipal Election October 26, 2021
WILLIAMSON COUNTY, TENNESSEE
ELECTION DAY MACHINE CERTIFICATION

Machine 2 161 830
Machine 1. 161 854

VOTE CENTER LOCATION — *Senior Enrichment Cntr VC#23*
AM OPENING POLLS

BALLOT BIN SEAL # _____
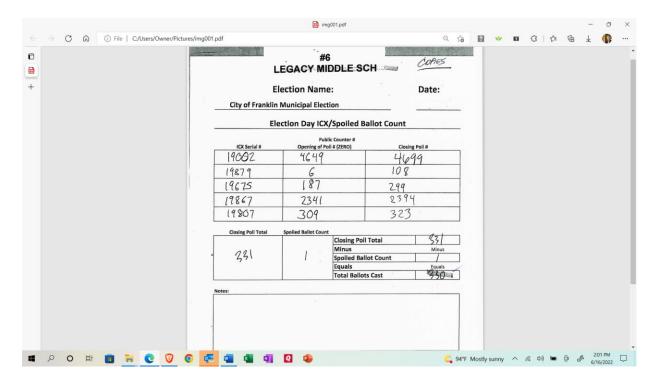(ATTACH SEAL AT OPEN POLL ON DOOR)

ICP MACHINE SERIAL #	DO NOT REMOVE POLL WORKER OR ADMINSTRATOR FLASH CARD SEALS SEAL #S		CASE DOOR SEAL #S (2)		PROTECTIVE COUNT	TOTAL VOTES SCANNED
#1 0130	160766	160756	160792	160717	441	Ø
#2 0165	160704	160727	160765	160734	3702	Ø

ICX TABLET BMD SERIAL #	ELECTION DATA SEAL	BATTERY SEAL	ACCESSORIES SEAL	POWER DOOR
909181445 (ADA)	159612	158517	158419	NO SEAL 159656
906171353	160436	158212	159648	158553
909181033	159698	159641	158555	158739
909181537	158503	160481	158407	160169
909181478	158172	158449	159601	158567

OFFICER _(signature)_
POLL OFFICIAL _(signature)_
POLL OFFICIAL _(signature)_

Here, below, is the evening closing report for the same voting center on the same day:

City of Franklin Municipal Election October 26, 2021
ELECTION DAY MACHINE CERTIFICATION

161 854 PB
161 830 PB

VOTE CENTER LOCATION — *Senior Enrichment Center VC#23*
PM CLOSING POLLS

BALLOT BIN SEAL # _____
(ATTACH SEAL AT OPEN POLL ON DOOR)

REMOVE POLL WORKER FLASH CARD(s)-RETURN TO ELECTION OFFICE

ICP MACHINE SERIAL #	DO NOT REMOVE ADMINSTRATOR SEAL #	CASE DOOR SEAL #S (2)	PROTECTIVE COUNT	TOTAL VOTES SCANNED
#1 0130	160766	161852 / 161837	653	207
#2 0165	160704	161874 / 161864	3967	260
ICX TABLET BMD	ELECTION DATA DOOR	BATTERY DOOR	ACCESSORIES	POWER DOOR

OFFICER _(signature)_
POLL OFFICIAL _(signature)_
POLL OFFICIAL _Shirley Brown_
POLL OFFICIAL _(signature)_

Note the ending protective count, the public count (total votes scanned) for both scanners and the signatures attesting to the correctness of the information. We also like that the form tracks the serial numbers of the BMDs (although they aren't notated on this closing form by the poll official as they

should be, attesting that no BMDs were changed during the day for any reason). Concerning the last four digits of the scanner serial numbers, we'd prefer, instead, that the full twelve-digit number be listed for greater authenticity.

Here, below, is another form where the poll officials documented the number of spoiled ballots in the October 2021 election.
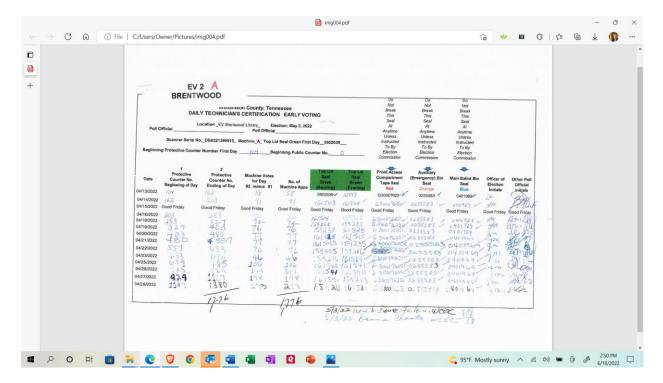

This form shows the number of spoiled ballots – a critical number in order for poll officials to be able to rectify the number of registrations to vote, ballots printed and ballots scanned to ensure all numbers balance. The form also gives the opening and closing number of ballots printed on each Dominion BMD. What you can't see on this scan are the three signatures of the poll official and witnesses, which was another good documentation step.

Aside the math, tracking on these forms is good. Sound information that affirms the WCEC can assert what equipment is where and account for voters and votes.
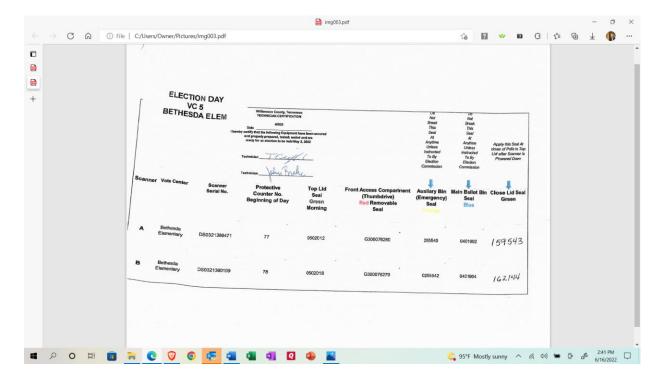
We don't know why the WCEC stepped backwards on documenting less for the May 2022 primary than it had been documenting here.

On the next page is the poll report from early voting at a vote center for the May 2022 election:

There's a lot of good information about the election at this voting center on this form. Protective count start and ending, the number of applications to vote, good daily tracking of seal numbers and the signature or initials of at least four poll or election officials. Although the form wasn't signed at the top and we have no idea who the initials at the right represent (so there's not enough accountability here), this is good.

And here on the next page is the poll report from election day May 2022 at a vote center.

Cleaner, but missing some vital information to help an auditor or citizen know what went on in this voter center on election day.
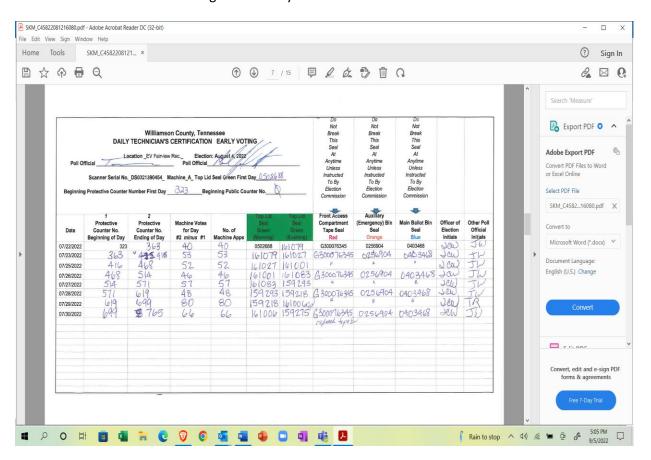
- Where are the ending protective count and ballot totals so we can tell how many ballots were scanned on the scanner?

- Why isn't the public count included so auditors can match up the counts?

- Why aren't the number of applications to vote tracked here like they are on the early vote forms? The poll official already tracks that number. Without the number of apps so you can check it against the scanner number to ensure it is correct?

- Where are the signatures of poll officials and witnesses attesting to the correctness of this form?

- Why doesn't the BMD show a number of ballots that it prints? You can't tell us that is not tracked somewhere inside the machine and can't somehow be shown on the screen. It should be.

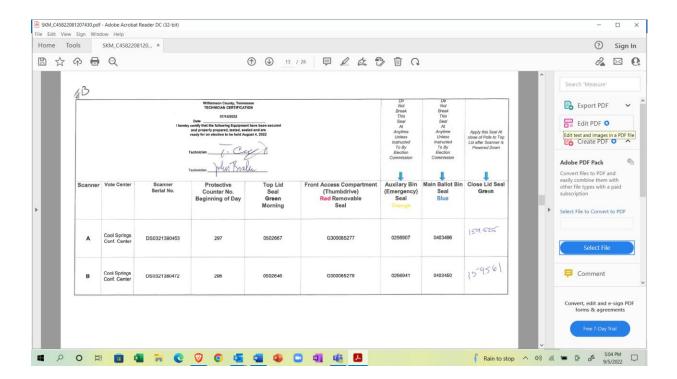- Why doesn't ES&S create daily closing tapes to verify the protective and public counts?

This is the level of detail that an auditor – and candidates and citizens -- would want to see on the forms to have confidence in the election. And for some reason, they're just not there.

Yes, we understand that some of the totals and signatures are on the scanner <u>tapes</u>. But we had to wait at least two+ months to receive the scanner tapes for our assessment of the May 2022 election. Our audit was a multi-step operation and it didn't need to be. <u>Put signatures on the poll reports</u>.

In our judgment, the best solution is to capture all the appropriate numbers and information on the poll official reports, along with the signatures of the poll officials and witnesses. Compile the info in one place – on the poll official official report -- to affirm what happened in the vote center. There's plenty of space on the form for this and it doesn't force citizens and auditors to have to request more documents to affirm the missing information. Sure, you could supply those tapes if asked, but the poll official reports would be the one-stop location for the affirming information. If they want to be professional in what they do, poll workers and officials should have no problem signing their name multiple times to affirm to the public that what is documented truly occurred.

Here are two reports from early voting and election day for the August 4, 2022 election… to show that the documentation has not changed from May 2022:

SKM_C45822081207430.pdf - Adobe Acrobat Reader DC (32-bit)

File Edit View Sign Window Help

Home   Tools   SKM_C45822081120... ×   Sign In

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Williamson County, Tennessee
TECHNICIAN CERTIFICATION

Date _____ 07/13/2022
I hereby certify that the following Equipment have been secured
and properly prepared, tested, sealed and are
ready for an election to be held August 4, 2022

Technician _____

Technician _____

Scanner	Vote Center	Scanner Serial No.	Protective Counter No. Beginning of Day	Top Lid Seal Green Morning	Front Access Compartment (Thumbdrive) Red Removable Seal	Auxiliary Bin (Emergency) Seal Orange	Main Ballot Bin Seal Blue	Close Lid Seal Green
A	Cool Springs Conf. Center	DS0321390453	297	0502667	G300085277	0256907	0403496	159525
B	Cool Springs Conf. Center	DS0321380472	296	0502646	G300085278	0256941	0403460	159561

Do Not Break This Seal At Anytime Unless Instructed To By Election Commission (Auxiliary Bin)
Do Not Break This Seal At Anytime Unless Instructed To By Election Commission (Main Ballot Bin)
Apply this Seal At close of Polls to Top Lid after Scanner is Powered Down (Close Lid Seal)

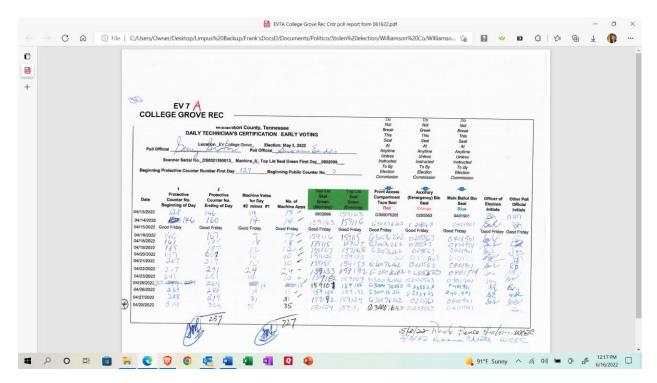Rain to stop   5:04 PM   9/5/2022

With regard to this 2022 documentation, the math skills – and the approval skills of officials and witnesses – are much better than before but workers and officials need to improve just a little more. When officials sign these forms, it is their attestation that they've checked the forms themselves and that the math is correct; the forms are correct. With the August 2022 election the math had improved greatly. But there were still documentation issues related to the broken blue ballot box tags and the red seals that appear to have been replaced that have yet to be fully explained.

We understand that the WCEC is going to return to metal seals, which should certainly help them from being knocked off, leaving the ballot compartment and other compartments unsealed. We would simply like to see better documentation on the poll official reports as to what is happening in the voter centers.
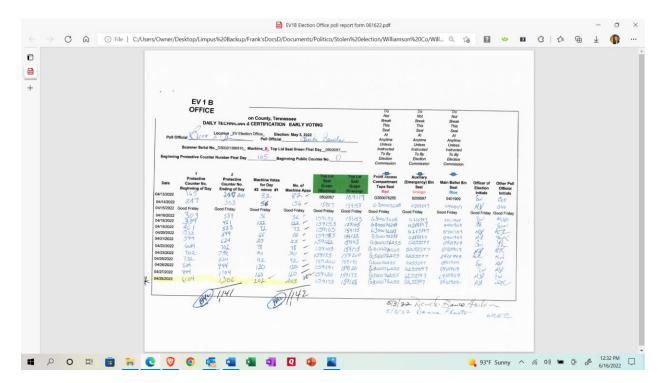
In May, several admitted mistakes on these forms by poll workers and election officials almost led to an overturned election. Here's what we mean:

The following poll official report from the May 2022 EV7A scanner at the College Grove Recreation Center shows a 10-vote discrepancy:

The number of the protective count at the end of the last early voting day (4/28/22) shows 35 votes on the machine when it should have shown 45 votes (364 – 319 = 45). The number of applications to vote shows 35 applicants. So where did the other 10 votes come from? And five poll officials signed off on this document attesting it was correct. In fact, the election was certified based on these forms.

But this form wasn't correct.

This poll report from the EV1B Election Office shows a one-vote discrepancy:

The protective count shows that 202 people voted on the final day of early voting (4/28/22) (1,306 – 1,104 = 202). But the number of applications to vote show 203 people applied to vote. And without any verification of the number of spoiled ballots or other numbers, there's no way to account for the vote that seemingly was never counted. Why?

One way or another, that's 11 votes that don't compute. And 11 votes just happened to be the number of votes by which one county commissioner lost his race in this election. So, he contested the election. That led the Tennessee GOP State Executive Committee on June 8, 2022 to reverse the outcome of that election race because of that documentation and, a day later, reverse that decision because of admitted mistakes by poll workers that were not explained on any of the documentation. Again, in this case, six election officials signed the form attesting they had checked the math and approved it. They apparently hadn't.
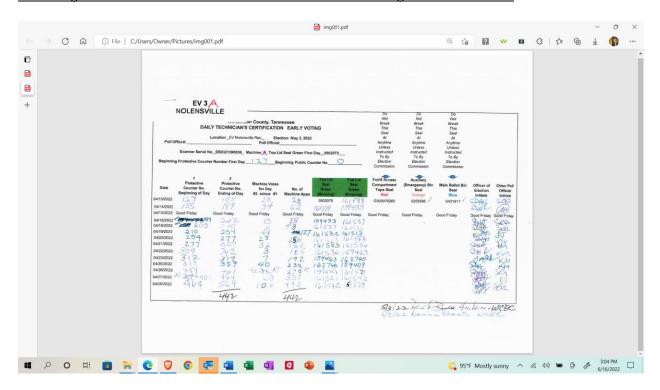
The reversal of the reversal was made because the Williamson County Elections Administrator said both mistakes were poll official mistakes. Granted, mistakes will happen. But that's why you have responsible poll officials and witnesses to be sure mistakes are caught before results are turned in.

The resulting key question of all this becomes: "How important is the integrity of election documentation? If what's on the official poll report doesn't count in a contest that has been certified with the signatures of six election officials affirming that the document is correct, why is documentation even done?" Where are responsible poll officials taking responsibility for the reliability of their election jobs?

Truly, this needed to improve and by August, it seems to be on its way.
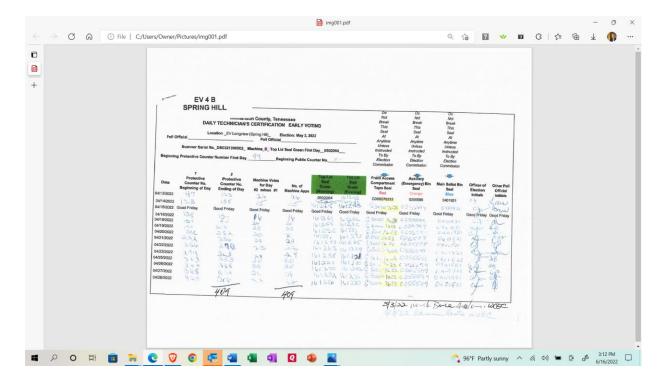
Here are a few more documentation issues that need to be addressed.

In the case of this early voting form at the Nolensville Rec Center from May, how do we know that security seals weren't broken, and votes changed on the machine sometime between April 13th and April 28th? Maybe they were tampered with over the long Easter weekend? We don't know. Seals must be documented daily and, if nothing else, the person who initialed the information on each day should have caught this. Not to mention the two WCEC officials who signed at the bottom.

Another issue may be hard to visually see without enlarging the screenshot, so we've highlighted the problem.

On the next page, the red security tape seal number of the top compartment where the scanner's USB stick is plugged in changes its number. It could well be that the person documenting this seal on April 16th wasn't paying attention or double checking and left out a key number of the seal. Seemingly an innocent mistake. But this is a direct access point to where votes are tabulated on the scanner. If there was an issue with the election count in the voter center, the fact that this seal number had changed would be a huge legal opening to question and contest the election.

We're not saying anything the WCEC doesn't already know and agree with. Correct and complete documentation of the election on these forms is critical. And we know the Williamson County Election Commission is in agreement 100%. The forms are necessary to affirm what happened in the voter center both during and after the election. When individuals sign up to be a poll worker, they become paid officials of the WCEC and their presence, their work, their double checking the documentation becomes vitally important to the integrity of the election. In fact, they take an oath before they start their work to ensure integrity is top of mind. Their job shouldn't be taken lightly.

If people don't like that amount of responsibility/oversight, then they should stop being a poll worker.

Third, chain-of-custody issues can make or break you.
The chain-of-custody for an election is critical to building confidence in the minds of citizens that the election was handled thoroughly and professionally. If handled poorly, consumers' antennae go up and cause citizens to wonder if something nefarious happened during the election.

Here are three examples of this from the August and May 2022 elections.

- On the first day of early voting for the August election, a ballot marking device appeared in one of the voting centers and the BMD was not listed on the machinery manifest. The poll watcher who caught this chain-of-custody issue worked with the poll official to stop its use in producing ballots until its appearance could be explained. It turned out to be a replacement BMD for one of the 200 BMDs that WCEC has in stock but hadn't listed on its manifest. Better documentation of the machinery needs to be done. Some may think this is simply a little thing, but not ensuring

an accurate chain-of-custody is how erroneous equipment that could prove disreputable can enter a voting system and destroy election integrity.

- In the August 4, 2022 election, thanks to the observations of poll watchers and poll workers, eleven scanners were observed to not have blue security tags that document the ballot bin compartment has remained unopened since election set-up. Seven scanners were properly addressed with a new tag when the missing tag was discovered. But three were never addressed and one wasn't addressed until late on the voting day. Some poll official reports documented this; some didn't. There also were a number of notations in poll official reports where security seals appeared to be replaced. We asked the Williamson County Election Commission about this issue but have never received an answer.

- In the May 2022 election, the Nolensville Rec Center scanner tape showed that the scanner was closed, with a note saying that the ballot bin seal was broken. Why was the seal broken? The machine did not appear to be closed as it ran all day. This should be explained, and it never has been.

- At the re-count audit following the August 4th election, the serial numbers of four blue security tags on machines pulled out for the audit were different than the same security tag numbers documented on the poll reports at the end of voting. The chairman of the Williamson County Election Commission said we had the wrong numbers. We don't know how that could be since we received the numbers at the August 15th audit from his election coordinator. We have received confirmation that we may have been given wrong information, but there has been no further explanation of this chain-of-custody issue or how it can be avoided in the future.

Fourth, delivery of election documentation could be sped up.
On Wednesday, May 4th, our group submitted two open records requests for election documents from the May 3rd election, including poll officer reports, scanner tapes, configuration tapes, vote cast record and other documentation.

We understandably gave grace to the WCEC for delivery of these items given that recovering from the election and audit – as well as other responsibilities -- could take time away from responding to open records requests. However, receiving the final batch of May election artifacts more than two months following our request seems a bit long to be waiting for such documents. Some candidates may be seeking the documents quickly in order to consider if they want to contest their election. (Another reason for having all key vote center data and signatures on one form would be helpful to both candidates and the WCEC staff.)

According to the Public Records Request policy of Williamson County, the only mention of any timeline for delivery/inspection of requested records is: "Personnel of Williamson County shall timely and efficiently provide access and assistance to Tennessee citizens requesting to view or receive copies of public records to the degree required by applicable law. No provisions of this Policy shall be used to hinder access to open public records."

We would recommend the policy be updated with a statement that sets expectations for when the records will be available. Perhaps something like: "Requested records will be delivered five business or seven days from the date of the request." In our judgment, waiting nine+ weeks to review key documents is not candidate- or citizen-friendly and less than professional.

Additionally, the policy is not dated and a statement inside the document says the policy will be updated every two years.

The real issue out of this, however, was that the <u>WCEC did not have the final two scanner tapes from the May 3rd election</u>. They're lost and that has been confirmed by the WCEC. A serious chain-of-custody concern.

In reviewing the scanner tapes from election day August 4, 2022, we've encountered the same issue. After weeks of follow up, we learned that <u>a configuration tape to an election day scanner is missing</u> and can't be found. Again, that has been confirmed by the WCEC and represents another serious chain-of-custody concern.

We're also now locked in a tussle to secure a <u>complete cast vote record report for both the May 3rd and August 4th elections</u>. The WCEC has given us one cast vote record from both elections, but what we've only lately learned is that all of the data that was on one Dominion cast vote record is on two records in the ES&S machines on which we now vote. There's the Cast Vote Record itself and then the Ballot Manifest Report/Tabulator Batch Report which details how each ballot is cast (in person, by mail, provisional, absentee, etc. The WCEC is stalling on producing this second report even though they've had 30+ days to generate it. We're now having to involve a lawyer to obtain the reports that citizens are due.

This situation is similar to another critical issue. In May of this year, we placed an open records request for the <u>November 2020 election Cast Vote Record</u> which was run on Dominion machines in Williamson County. After following up with five different emails and phone calls and receiving nothing, we had to resort to hiring a lawyer to force the CVR from the WCEC. We received the CVR in late August, but the question is: Why did the Williamson County Election Commission refuse to answer our request for four months?   Why did it take a lawyer to jar the CVR out of their hands?

Fifth, the new pilot audit seemed to work well.
Although this audit is simply a hand re-count – a comparison of the number of paper ballot votes to the number of machine votes counted -- it still is a good step in the right direction. We would, however, like to see this applied to more races than just two. And we are studying other audits that we know would be far more beneficial to election integrity… if the WCEC wants to improve the product they're testing.

In the May re-count, the process even uncovered a test ballot that had not been cleaned out of a scanner bin before the election, a good testimony to the importance of audits. But the audit could have been used to help avoid two election contests in the May primary that were close (11 votes and 38 votes) and had to be resolved by the GOP State Executive Committee. Even though the Johnson bill affirmed in Section 3 subsections a(3) and a(4) that the Commission could include additional races to be audited in the audit, unfortunately, the WCEC decided not to use the audit tool to resolve these two

races. A better read of the new law needs to be completed to bring this new integrity tool to the Election Commission both in Williamson County and throughout Tennessee.

Finally, there are additional improvements we believe will further help the transparency/integrity process.
Again, while these two 2022 elections were better than the October 2021 election in terms of process and documentation, there are still a number of assorted improvements that, in our judgment, can be made to increase transparency, precision and trust in the election including:

- A pre-election hash and a post-election hash should be run on every scanner and BMD to demonstrate post-election, that none of the machines and their software have been tampered with, mis-programed or, simply, fallible. As explained previously, this simple step could affirm that no machines have undergone some change during the election. But, as also mentioned earlier in this whitepaper, it can't be done using the machine brand's own systems. It must be done using an external entity using the ES&S reference standard hash total that is maintained by the EAC for each vendor version certified. Unfortunately, the WCEC is resistant to this safety step.

- There should be a way for each BMD to show either on-screen or in some reportable fashion how many ballots have been printed by each machine so that there are at least three datapoints in a voting center that can be compared to ensure precision documentation of the election -- # applications to vote vs. number ballots printed (minus spoiled ballots) vs the number ballots scanned.

- Just as the scanners are assigned to a particular voter center and reported on those poll official forms, the BMDs, likewise, should be assigned to a voter center and accounted for in the documentation. This was done in previous elections and poll reports and would further help transparency should a BMD need to be replaced.

- Additional numbers that should be tracked and reported by the poll official in their forms should be:
  - The number of blank ballots at each voting center at the start and end of the day/election; and
  - The number of spoiled ballots for both early voting and election day. These critical integrity numbers do not appear to be tracked at this moment. Tracking, reporting and poll official signature of both will further help better affirm transparency for voters.

- Election officer election day reports should contain:
  - Witness signatures (like the early vote forms contain);
  - End-of-day protective counts;
  - The number of applications-to-vote; and
  - Other data points that are on the early voting sheets and were previously tracked on the reports used in the October 2021 election. Having such signatures on scanner tapes is good, but, in our judgment, this data should be added to the official poll reports as was

done previously to ensure an official accounting of the key data "in one place" for the election.

- On forms where witness initials are used, the form should include <u>space for the witness to also print/sign his/her name to give verification to the initials so witnesses can more readily be identified</u>. If poll workers/officials refuse this, they shouldn't be working the polls as they are not accountable to citizens.

- When removed after the election for ballot retrieval, the <u>red thumb drive compartment seals should be applied to the poll official form</u> to affirm the continuity of the seal number at the end of the election. Done on a couple of vote center reports in the May election, this was a good step that the WCEC initiated that underscored security. All voting officials should do this.

- Poll officials should <u>mark on the top of every scanner tape the voting center and whether the tape is from scanner A or scanner B</u>. This still is not done consistently.

- Other broader changes we still believe are vital for the sake of election integrity:

  o Return to precinct voting vs. vote centers voting. Voters want SECURITY above CONVENIENCE.

  o Remove the BMDs and move back to hand-marked, high-security paper ballots to remove hackable machinery and better ensure integrity. This would also bring WCEC closer to compliancy with TCA 2-20-101, the 2020 Tennessee Voter Confidence Act, although "voter-verifiable" is still not possible with the current machines. Right now, <u>with BMDs and ballot QR codes and Bar codes there is no way a voter can verify his/her vote on the ballot</u>, regardless of what WCEC and SEC officials say. Secretary of State Tre Hargett has been quoted on video as approving a movement to hand-marked high-security paper ballots by counties. (January 25, 2022 House Local Committee presentation.)

  o Remove the remaining technology of the scanner and hand count the ballots by precincts, which the October 27, 2021 audit proved could be easily done. This could become the audit. In the interim of this move, use the scanners and keep the refine the current hand re-count audit process into a stronger audit.

  o Post ballots and election officials' documentation online so citizens could conduct their own audit… "The People's Audit." Now THAT would be transparency!

<u>Recommendation</u>
Our recommendations to the Williamson County Election Commission are simple.

You can help restore citizen confidence in our elections by continuing your work to improve the process. These recommendations in this backgrounder discussion would be a good continuation of those efforts.

While we never intend to be detrimental in our reports to people who are trying to do their best for constituents, Tennessee elections are critical and workers, poll officials and commissioners should not cavalierly turn a blind eye to what we have presented in this whitepaper or our presentations. Williamson County voters deserve the best possible election officials as well as poll workers who can deliver high, provable quality on all that they do for our elections. <u>This is both a process and training issue.</u>

- <u>It's a **process issue** because there are still a number of reasonable steps that can consistently improve transparency and integrity that should be inserted into the system.</u>

- <u>And it's a **training issue** to ensure these workers know exactly what needs to be done and can get it done again and again and again.</u>

Every automotive manufacturer worth its salt – GMC, Nissan, VW, Ford, etc. – has process sheets for every job done on the production line to ensure every step in building consistent, high-quality automobiles is done with precision, regardless of who does the job. Line workers are trained, trained and re-trained to ensure that they deliver on these processes. Or they are replaced. That's what the WCEC needs to instill in its workers.

Leadership should discuss how these best practices outlined can be implemented and continue its efforts to instill an attitude of continuous improvement and excellence in election workers. Doing so will definitely achieve the WCEC Chairman's goal of "transparency, fidelity and accuracy" in our elections.

Conclusion
From the beginning, Tennessee Voters for Election Integrity's purpose has been simple: To share with state legislators, election commissions and government officials' opportunities that we have uncovered in our research to plug holes we've found in Tennessee's election systems. And for these leaders to make (and lead) necessary changes in machinery and methods that will strengthen Tennessee's leadership in election integrity while improving citizen trust and support of our election processes.

We want to join the state and our county in ensuring every Tennessee election is transparent, trustworthy and free of questionable activity, regardless of who wins. Thankfully, Tennessee and Williamson County appear to support elements of election integrity, but we have found numerous issues with election equipment, processes and people where this can be improved. If not addressed, though, these holes in our system can – and likely will – be easily exploited.

If election officials and legislators view this as an opportunity to make Williamson County's and Tennessee's election integrity reputation even better, even stronger, citizens will flock behind them. If legislators, officials and commissioners don't, then they will feel the ire of citizens who will know they aren't being listened to.

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