

Delaware County, Pennsylvania

Election Fraud Risk

An analysis of attack surfaces from public
information

Executive Summary

What you need to commit election fraud is people willing to do so, the means to do so, and the opportunity to do so. This paper shows that the Delaware County, PA based on available information is at high risk for election fraud. To prevent election fraud, integrity and transparency are vital. Based on Delaware County response to Right-to-know request, public information, Federal Standards for electronic voting, and PA Secretary of State report on Hart Verify 2.3.4 (the electronic voting system used by Delaware County) and PA state requirement for records retention, Delaware County is NOT that fulfilling these vital election functions. Based on this investigation it is highly probable that the results of the votes in Delaware County will be **fraudulent**.

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Background

The federal election of 2020 had questionable integrity. There is currently a lawsuit vs Delaware County of the 2020 results. There were highly suspicious vote tallies in the tens of thousands in the middle of the night for one candidate. Mail-in-ballots were mailed to dead people. An in Antrim County, Michigan, the only county to do a full forensic audit of there vote, approximately 20% of the vote was miscounted. This paper investigates how important election integrity is, the transparency of Delaware County and the vulnerabilities of the Verify Hart 2.3.4 voting system as currently used by Delaware County

Assumptions

The assumptions for this paper are a general understanding of Cyber Security, specifically Hash Codes and statistics.

Balance of power

The US Senate is currently split 50-50 with 50 Republican Senators and 48 Democratic Senators and two Independents who caucus with the Democrats. The Vice President is a Democrat and break 50-50 vote ties. Outside megadonors have been noted to dump hundreds of millions of dollars to influence the outcome of elections. Roughly \$400 million flowed through two liberal-leaning 501(c)(3) organizations under the guise of supporting a safe election during the pandemic of 2020. ([Mark Zuckerberg's 'donations' rigged the 2020 election - Washington Times](#)). Based on the political integrity we noticed (see next section) it is not inconceivable to have ballot stuffing, imaging systems programmed to switch voted, vote tally machine to switch counts or be hacked.

Since the vote tally in Delaware County, PA could easily determine the US Senator for PA and possibly the who controls the Senate, it is highly possible that malicious actors are trying to manipulate vote totals. (Reference #1)

Takeaway #1: The risk of attempt to commit voter fraud is high

Political Integrity

Below is a release of the conviction of a former US Congressman for election fraud. If a former US congressman is willing to commit fraud, it is possible the people within Delaware county would also commit fraud, either for monetary gain or political zealotry. (<https://www.justice.gov/usao-edpa/pr/former-us-congressman-and-philadelphia-political-operative-sentenced-30-months-prison>

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FOR IMMEDIATE RELEASE
Tuesday, September 27, 2022

Former U.S. Congressman and Philadelphia Political Operative Sentenced to 30 Months in Prison for Election Fraud

PHILADELPHIA – United States Attorney Jacqueline C. Romero announced today that former U.S. Congressman Michael “Ozzie” Myers, 79, of Philadelphia, PA, was sentenced to 30 months in prison, three years of supervised release, and ordered to pay \$100,000 in fines, with \$10,000 of that due immediately, by United States District Court Judge Paul S. Diamond after pleading guilty to conspiracy to deprive voters of civil rights, bribery, obstruction of justice, falsification of voting records, conspiring to illegally vote in a federal election, and for orchestrating schemes to fraudulently stuff the ballot boxes for specific Democratic candidates in the 2014, 2015, 2016, 2017, and 2018 Pennsylvania elections. The defendant was immediately remanded into custody following today’s hearing.

In June 2022, the defendant admitted in court to bribing the Judge of Elections for the 39th Ward, 36th Division in South Philadelphia in a fraudulent scheme over several years. Myers admitted to bribing the election official to illegally add votes for certain candidates of their mutual political party in primary elections. Some of these candidates were individuals running for judicial office whose campaigns had hired Myers, and others were candidates for various federal, state, and local elective offices that Myers favored for a variety of reasons. Myers would solicit payments from his clients in the form of cash or checks as “consulting fees,” and then use portions of these funds to pay election officials to tamper with election results.

Myers also admitted to conspiring to commit election fraud with another former Judge of Elections for the 39th Ward, 2nd Division in South Philadelphia. Myers’ accomplice was the *de facto* Judge of Elections and effectively ran the polling places in her division by installing close associates to serve as members of the Board of Elections. Myers admitted that he gave his accomplice directions to add votes to candidates supported by him, including candidates for judicial office whose campaigns actually hired Myers, and other candidates for various federal, state, and local elective offices preferred by Myers for a variety of reasons.

“Voting is the cornerstone of our democracy. If even one vote has been illegally cast or if the integrity of just one election official is compromised, it diminishes faith in process,” said U.S. Attorney Romero. “This defendant used his position, knowledge of the process, and connections to fix elections for his preferred candidates, which demonstrates a truly flagrant disregard for the laws which govern our elections. He will now spend 30 months in prison as penalty for his crimes.”

“Protecting the legitimacy of elections is critical to ensuring the public’s trust in the process,” said Jacqueline Maguire, Special Agent in Charge of the FBI’s Philadelphia Division. “Through his actions, Ozzie Myers pointedly disdained both the will of Philadelphia voters and the rule of law. He’s now a federal felon twice over, heading back behind bars, with time to consider the great consequence of free and fair elections.”

This case was investigated by the Federal Bureau of Investigation, with assistance from the Pennsylvania State Police. It is being prosecuted by Assistant United States Attorneys Richard P. Barrett, Chief of the Criminal Division, and Eric L. Gibson with assistance from Richard C. Pilger, the former Director of Elections Crimes Branch (retired), Criminal Division, Public Integrity Section, U.S. Department of Justice. (Reference #2)

Takeaway #2: The will to commit voter fraud is high

National Institute of Standards and Technology

In 2005 NIST published the Voluntary Voting System Guidelines. Volume 2 . in section C.5 Accuracy Testing Criteria, it states

“Certification and acceptance test procedures that accommodate event-based failures are, therefore, based on a discrete, rather than a continuous probability distribution. A Probability Ratio Sequential Test using the binomial distribution is recommended. In the case of ballot position error rate, the calculation for a specific device (and the processing function that relies on that device) is based on: HO: Desired error rate = 1 in 10,000,000 H1: Maximum acceptable error rate = 1 in 500,000 $\alpha = 0.05$ $\beta = 0.05$ and the minimum error-free sample size to accept for qualification tests is 1,549,703 votes.” (Reference #3)

The takeaway to meet the accuracy required it takes a 1,549,703 vote test.

Guideline was updated in 2021 with the two key parameter

“13.2 - The source and integrity of electronic tabulation reports are verifiable.”

NIST states that the EAC has all matters with regards to Elections but the material is provided as reference.

14.3.2-B – Software verification for installation. The voting system must cryptographically verify the digital signature of software and firmware before it is installed. (Reference #4)

Takeaway #3: a Hash of the software is a digital signature and key to software integrity

Election Assistance Commission

Below is a copy of the EAC text on the certification certificate of Hart Verify issued on May 19, 2019

“Hart Verity Voting 2.3.4 Executive Director U.S. Election Assistance Commission The voting system identified on this certificate has been evaluated at an accredited voting system testing laboratory for conformance to the 2005 Voluntary Voting System Guidelines (2005 VVSG) . Components evaluated for this certification are detailed in the attached Scope of Certification document. This certificate applies only to the specific version and release of the product in its evaluated configuration. The evaluation has been verified by the EAC in accordance with the provisions of the EAC Voting System Testing and Certification Program Manual and the conclusions of the testing laboratory in the test report are consistent with the evidence adduced. This certificate is not an endorsement of the product by any agency of the U.S. Government and no warranty of the product is either expressed or implied. Product Name: Verity Voting Model or Version: 2.3.4 Name of VSTL: SLI Compliance EAC Certification Number: HRT-VERITY-2.3.4 Date Issued: May 29, 2019”

Following this is the significance of the certification

Significance of EAC Certification An EAC certification is an official recognition that a voting system (in a specific configuration or configurations) has been tested to and has met an identified set of Federal voting system standards. **An EAC certification is not:** • An endorsement of a Manufacturer, voting system, or any of the system’s components. • A Federal warranty of the voting system or any of its components. • A determination that a voting system, when fielded, will be operated in a manner that meets all HAVA requirements. • **A substitute for State or local certification and testing.** •

A determination that the system is ready for use in an election. • A determination that any particular component of a certified system is itself certified for use outside the certified configuration.

I highlighted in Bold the key takeaway . (Reference #5)

Takeaway #4: A EAC certification is not a substitute for local Certification and testing.

Takeaway #5 Certification testing should be verifiable and accurate.

PA County Record Guideline

In 2002, and updated in 2017 the state of PA issued the County Records manual. On page 7 it states the County Records Act defines county records as "any papers, dockets, books, maps, photographs, or other documentary materials, regardless of physical form or characteristics, made or received in any office of county government in pursuance of law or in connection with transactions of public business in the exercise of its legitimate functions and the discharge of its responsibilities."

Some of the key record series are

AL-6 County Disposal Certification Request Forms/Logs Includes disposal forms and logs submitted to the Pennsylvania Historical and Museum Commission in compliance with the County Records Act. Retain permanently for administrative, legal and historical purposes.

EL-33 Voting Machine Lists And Certifications Consists of inventory lists showing number of machines, storage locations and registration numbers. Certification form relates to preparation of machines for election and includes custodian's certification that counter is set at zero, that each protective counter has been recorded, and that each machine has been sealed and the seal number recorded. Also shows election, date, and signatures of custodian and deputies. Retain 11 months. (25 P.S. §§ 2649 and 3011(d)).

IT -2 Computer Inventory Records Records documenting the assignment of a specific computer to an individual as well as inventories of licensed software, may include address or mailbox data assigned to the individual. Retain 2 years after computer removed from service or is reassigned.

IT -3 Computer Systems Documentation Records Hardware and software manuals and program coding. Retain 1 year or until superseded or obsolete.

IT-5 Disaster Preparedness and Recovery Plans Records related to the protection and reestablishment of computer services and equipment in case of a disaster. Retain until superseded or revised. (Reference #6)

Takeaway #6: Voting Machine preparation and certification, as well as destruction logs are public records, and computer system documentation are public records

Antrim County

Antrim County Michigan was the only county in the 2020 election that did a complete forensic audit of its votes.

On election night the results were Biden 7769 and Trump 4509, but after the audit the votes were Biden 5960 and Trump 9748.

What Michigan Secretary of state found is that the machine had been change. The Hash files from the report are shown on the following page. Only 4 of 18 scanners used the proper software (see below)

Hash of election definition files from:			
Scanner	Memory Card	Initial Package	Revised Package
Banks (a)	ff03cbbb51cc3a5d	ff03cbbb51cc3a5d	ff03cbbb51cc3a5d
Central Lake (b)	c00dcf4ca35ef7f6	7b8591f6740fb8f5	c00dcf4ca35ef7f6
Chestonia	f391bbd613fdc6c4	f391bbd613fdc6c4	74a7117cfd151c4f
Custer	bb84f43854455a1e	bb84f43854455a1e	ba8ae12c2be863bd
Echo	0ee14f49f5791a81	0ee14f49f5791a81	34715b0f5e2f0023
Elk Rapids 1	c02565674b0f5c98	c02565674b0f5c98	20070f5cbd169c97
Elk Rapids AV	112ec69d110e5a3b	112ec69d110e5a3b	e7eec7a46e512890
Forest Home	f78c3d04faf939d3	f78c3d04faf939d3	87619945510c2734
Helena	506f34c5dafa9089	506f34c5dafa9089	df345e890f6790ac
Jordan	564abac2dddffc0d	564abac2dddffc0d	ee2ed5c613862e05
Kearney	b21d1803326105b7	b21d1803326105b7	103428ac3f693dfe
Mancelona 1 (c)	1a98842abe440234	820b4e24a3794af3	1a98842abe440234
Mancelona 2 (c)	f7261e8ce3d4e2f2	5de5f2843b9791f9	f7261e8ce3d4e2f2
Milton 1	d6707193f98ac434	d6707193f98ac434	13eafaa33fe413d1
Milton AV	f12ae9d71f3e56fe	f12ae9d71f3e56fe	b61c12678d3e9279
Star	8137bf3b0ddc8769	8137bf3b0ddc8769	77c67db8aa97ef02
Torch Lake	2f2de2a0f8bfdb8	2f2de2a0f8bfdb8	b45c508fae9aa39f
Warner	850d06f4a744f588	850d06f4a744f588	3eb6246c63c5d88a

Notes: (a) Definition is same in both packages; (b) Used initial definition Nov. 3 but rescanned Nov. 6 with revised definition; (c) Revised definition loaded before Nov. 3.

Table 3: **Scanner Election Definitions.** Only four of 18 scanners (Banks, Central Lake, Mancelona 1 and 2) used election definitions that matched the revised election package. Each entry shows the truncated SHA-256 hash of the election definition files. Matching hashes (*highlighted*) indicate files that are identical.

(Reference #7)

Takeaway #7: Voting Software HASH file and installation procedure are key to the integrity of the election.

Hart Verify 2.3.4 and PA Secretary of State report

On June 19, 2019, Acting Secretary of the Commonwealth, Kathy Boockvar issue a report on the Hart Verify 2.3.4. which included its EAC certification.

On Page 48 it states

All jurisdictions implementing the Verity Voting 2.3.4 need to carry out a full Logic and Accuracy test on each device without fail and maintain evidence of Logic and Accuracy (L&A) testing in accordance with the statutory requirements for pre-election and post-election testing.

Takeaway #8: Voting Machine must have logic and accuracy and transparency.

On Page 52

W. Jurisdictions must implement processes to gather and safekeep system logs for each component of the voting system after each election. Consistent auditing of system logs and reports is vital to maintain system transparency and to ensure that any compromise or malfunction is observed and reported in a timely manner. (Reference #8)

Takeaway #9: Voting Machine have audit logs.

Mail in Ballots

Mail-in-Ballots are at high risk for fraud. Dinesh D'Souza publish a movie called 2000 Mules which showed mail-in-ballot fraud. This does not mean the Delaware County had fraud but it raised awareness enough to perform a First Digit Benford Fraud Detection Test (reference #10) on Biden's Mail in ballot. Biden ballot were chosen because he won the state of PA. If Trump Ballot had mail fraud, it was insufficient to change the results, so no harm not foul. (Reference #8)

H(0) : The Mail in Ballots for Joe Biden followed a Benford distribution 99% confidence

H(1): The Mail in ballots do not follow a Benford distribution

With 428 precincts and 8 degrees of freedom a test was conducted

The test statistic fell outside it distribution and we had to reject the null hypothesis H(0) and accept the alternative hypothesis H(1), i.e. that there is probable fraud.

Takeaway #10: Mail in Voting is at a high risk for fraud

Imaging System and Tabulation system

Logic and Accuracy of the Hart Verify 2.3.4. system has never been tested to the NIST standard. The system was EAC certified by documentation review, page 32 Reference

The Functional Examiner concluded that the requirement is met since the system completed EAC accuracy testing and the results for the primary and general election run reconciled with expected results.		
25 P.S. § 3031.7(14)	All components of the Verity Voting 2.3.4	Documentation review
Comments –		

.(Reference #5)

Takeaway #11: Hart Verify 2.3.4 has not been tested to the accuracy in Specified in NIST

The logic and accuracy test from the PA Depart of State does not document the HASH codes nor does it specific testing to the NIST standard

Takeaway #12: Hart Verify 2.3.4 system as implemented in Delaware County does not provide for verification and auditability, specifically they have no proof of what software is running on their machine.

Transparency at Delaware County

PA Right-to-Know law provides taxpayers transparency to Government operations. Below is a list and Delaware County response to Right-to-Know request

Right to Know request: Procedure for verifying that an absentee ballot request is from a registered Delaware County Resident

Delaware County Response: Denied

Comment: Either the procedure does not exist or is insufficient. Procedure are part of training for election officials.

Right to Know request: : Procedure for chain of custody of mail in ballots from the receipt from the post office to the time they are scanned, this should include the verification that they requested a mail in ballot and that they are registered

Delaware County Response: Denied

Comment: Either the procedure does not exist or is insufficient. Procedure are part of training for election officials

Right to Know request: Procedure for chain of custody of dropbox ballots from the receipt from the post office to the time they are scanned, this should include the verification that they requested a ballot and that they are registered.

Delaware County Response: Denied

Comment: Either the procedure does not exist or is insufficient. Procedure are part of training for election officials. It is curious that a county official explained this procedure at a meeting but apparently the County does not want to be on record.

Right to Know request: Formal test procedure for Verify version 2.3.4 (or the current software used for imaging the ballots. This should include the way the software was tested, number of ballots scanned. This is how the test is to be performed. This is a generic document on how the software meets the verification standard. This test [procedure should include what standard it is testing to.

Delaware County Response: Denied

Comment: This procedure is online at PA SOS. See reference #

Right to Know request: Formal test procedure certification of competition for Verify version 2.3.4 (or the current software used for imaging the ballots. This should include the way the software was tested, number of ballots scanned. This is when the test was performed, who performed the test, certificate of completion and the hash of the software that the test was performed on

Delaware County Response: Denied

Comment:

Right to Know request: Manufacturer of each vote imaging machine by precinct, serial number, date of software installation, who performed the installation, and hash of the software installed.

Delaware County Response: Denied

Comment: This is specially records retention series EL-33

Right to Know request: Verification of performance of each machine, specifically if it meets the accuracy of NIST standard for Voting Systems Performance and Test Standards, the test procedure, name of individual who ran the test, affiliation of individual who ran the test, copy test procedure run.

Delaware County Response: Denied

Comment: This record probably does not exist b/c I doubt 1,549,703 sample ballots have been created and/or test

Right to Know request: Verification of performance of each machine, specifically if it meets the accuracy of NIST standard for Voting Systems Performance and Test Standards, the test procedure, name of individual who ran the test, affiliation of individual who ran the test, copy test procedure run.

Delaware County Response: Denied

Comment: This record probably does not exist b/c I doubt 1,549,703 sample ballots have been created and/or test

Right to Know request Process for tabulation the results of each precinct, including chain of custody and if over the internet the certification and vulnerability scan of the machine, who signed off on the scans etc..

Delaware County Response: Denied

Comment: Requirement of PA Secretary of State

Right to Know request: Process for scanning for known vulnerabilities, date of last scan, and person performing the scan for each tabulating machine.

Delaware County Response: Denied

Comment: Requirement of PA Secretary of State

Right to Know request: Process for scanning for known vulnerabilities, date of last scan, and person performing the scan for any machine connected to the internet machine in the process of voting, which includes registration of voters, scanning, and tabulating. This should include any third parties that tabulate the vote.

Delaware County Response: Denied

Comment: Requirement of PA Secretary of State

Right to Know request: on June 13,2019 acting Secretary of State, Kathy Boockvar, issued a report for the results of Verify voting 2.3.4. On the page 58, the report states that the system can be used if all of the condition are listed is Section 4. Please provide the procedure used in 2020 presidential election

Delaware County Response: Denied

Comment: This was for 2020 election so there is nor reason for denial except if it does not exist. If it was destroyed that would be an acceptable response as the retention guideline is 11 months.

Right to Know request: on June 13,2019 acting Secretary of State, Kathy Boockvar, issued a report for the results of Verify voting 2.3.4. On the page 58, the report states that the system can be used if all of the condition are listed is Section 4.. Please provide the signed procedure for each vote imaging system used in 2020 presidential election

Delaware County Response: Denied

Comment: This was for 2020 election so there is nor reason for denial except if it does not exist. If it was destroyed that would be an acceptable response as the retention guideline is 11 months.

Right to Know request: Please provide the Continuity of operations plan for the 2022 federal election should the verify 2.3.4 vote imaging system be rendered inoperable for any reason

Delaware County Response: Denied

Comment: This is record series IT-5 from the state guideline

Right to Know request: Please provide all records classified as EL33 Voter List and certifications for Sept 01-2020 to Sept 20, 2022

Delaware County Response: Denied

Comment: Self Explanatory

Takeaway #13: The County of Delaware is not following the procedure and guideline on the PA Right-to-know law.

Takeaway #14: The county is not following the state guideline on Records retention

Overall System Risks

This section will analyze the takeaways above and assign a risk level of either low, medium or high. Based on the rating, and it should be understood that if just one vulnerability is sufficiently exploited it can change the tally of the vote significantly. Low is acceptable Risk. Medium is risk that susceptible to voter fraud but probably cannot alter the results of the election. High is a vulnerability that can significantly alter the vote totals.

Takeaway #1: The risk of attempt to commit voter fraud is high

Risk: High

This go to motive, the desire to commit voter fraud is proportional to the gain, which is control of the US Senate

Takeaway #2: The will to commit voter fraud is high

Risk: High

If a US Congressman will commit voter fraud, no politician or county employee is capable of committing voter fraud

Takeaway #3: a Hash of the software is a digital signature and key to software integrity

Risk: High

Without Hash codes there is absolutely no way to know what software is on your system

Takeaway #4: A EAC certification is not a substitute for local Certification and testing.

Risk: Low Delaware county does not rely on its EAC certification

Takeaway #5 Certification testing should be verifiable and accurate.

Risk: High

Without accuracy testing the result of Antrim County could very well occur in Delaware County

Takeaway #6: Voting Machine preparation and certification, as well as destruction logs are public records, and computer system documentation are public records

Risk: **High**

Transparency and accountability are needed for election integrity

Takeaway #7: Voting Software HASH file and installation procedure are key to the integrity of the election.

Risk: High

Hash file should be part of installation and testing procedure. Non-disclosure of these procedure raises red flags

Takeaway #8: Voting Machine must have logic and accuracy and transparency.

Risk: High

Transparency and accountability are needed for election integrity

Takeaway #9: Voting Machine have audit logs.

Risk: High

State Requirement

Takeaway #10: Mail in Voting is at a high risk for fraud

Risk: High

Voter ID, vote in person, clean voter rolls can mitigate this before the 2024 election

Takeaway #11: Hart Verify 2.3.4 has not been tested to the accuracy in Specified in NIST

Risk: High

There is not enough time to complete this

Takeaway #12: Hart Verify 2.3.4 system as implemented in Delaware County does not provide for verification and auditability, specifically they have no proof of what software is running on their machine.

Risk: High

Transparency and accountability are needed for election integrity

Takeaway #13: The County of Delaware is not following the procedure and guideline on the PA Right-to-know law.

Risk: Medium

Takeaway #14: The county is not following the state guideline on Records retention

Risk: Low

Overall System Risks can be mitigated at a zero-cost solution to the taxpayer, this is to hand count the election votes. This does not mitigate the mail in voter fraud but limits the computer vulnerabilities

Conclusion

It is highly probable that the vote tallies from Delaware County will determine the outcome of the US Senate race and will determine the balance of power in the US Senate. Based on the security of the current system, the attitude of the public official based on their response to Right-to-Know requests, and the importance of this race, it is highly probable that those vote tallies will be fraudulent.

References

1. [Mark Zuckerberg's 'donations' rigged the 2020 election - Washington Times](#)
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