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**NOTICE TO PLEAD**  
You are hereby required to file a response to the enclosed Preliminary Objections within twenty (20) days from the date of service hereof or a default judgment may be entered against you.

*/s/ J. Manly Parks*

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<b>ALFEIA GOODWIN and ROBERT MANCINI</b>	:	<b>COURT OF COMMON PLEAS,</b>
<b>Petitioners</b>	:	<b>DELAWARE COUNTY</b>
	:	
v.	:	<b>ELECTION LAW</b>
	:	
<b>DELAWARE COUNTY</b>	:	<b>NO: CV-2024-8838</b>
<b>Defendant</b>	:	

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**PRELIMINARY OBJECTIONS TO PETITIONERS' APPLICATION FOR EMERGENCY RELIEF AND SEEKING PRELIMINARY INJUNCTION**

Pursuant to Pennsylvania Rule of Civil Procedure 1028, Respondent Delaware County hereby submits its Preliminary Objections, and incorporates by reference the accompanying Memorandum of Law, to the Application For Emergency Relief And Seeking Preliminary Injunction ("Petition")<sup>1</sup> filed by Petitioners Alfeia Goodwin and Robert Mancini (collectively, "Petitioners") and states as follows:

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<sup>1</sup> Petitioners did not file an underlying complaint with their Application for Emergency Relief. To the extent the Court considers Petitioners' initial Petition to be the underlying Complaint, these objections apply.

## FACTS

1. On April 5, 2024, the County received a letter from Petitioner Mancini, making various unfounded claims that there was unauthorized software, which he identified as Mathnet.Numerics, on Delaware County’s voting machines. A true and correct copy of this letter is attached as **Exhibit A**.

2. Later that same day, James Allen, Director of Elections for Delaware County, responded to Mancini’s letter via email, explaining *at length and in detail* that the software Mancini identified as “unauthorized” was in fact a known and tested part of the software on all Hart Verity voting machines. A further exchange of emails followed, concluding with Allen directing Mancini to the Election Assistance Commission (EAC), which had authorized the software. A true and correct copy of this email exchange is attached as **Exhibit B**.

3. On October 11, 2024, Petitioners filed their Application for Emergency Relief and Seeking Preliminary Injunction, based on their unfounded belief that Mathnet.Numerics—the very same software that Mancini falsely claimed in April of this year was not authorized for use on the Hart Verity system that Delaware County’s election equipment runs—is unauthorized software that should not be on Delaware County election equipment. *See generally* Petition.

## LEGAL STANDARD

4. Pennsylvania Rule of Civil Procedure 1028 provides the following:

(a). Preliminary Objections may be filed by any party to any pleading and are limited to the following grounds:

(1) lack of jurisdiction over the subject matter of the action or the person of the defendant, improper venue or improper form of service of a writ of summons or a complaint;

(2) failure of a pleading to conform to a law or rule of court or inclusion of scandalous or impertinent matter;

- (3) insufficient specificity in a pleading;
  - (4) legal insufficiency of a pleading (demurrer); and
  - (5) lack of capacity to sue, nonjoinder of a necessary party or misjoinder of a cause of action
  - (6) pendency of a prior action or agreement for alternative dispute resolution;
  - (7) failure to exercise or exhaust a statutory remedy; and
  - (8) full, complete and adequate non-statutory remedy at law.
- (b). All preliminary objection shall be raised at one time. They shall state specifically the grounds relied upon and may be inconsistent. Two or more preliminary objections may be raised in one pleading.

Pa. R. Civ. P. 1028.

5. Preliminary objections may be granted when the case is clear and free from doubt.

*McCullough v. Clark*, 784 A.2d 156, 157 (Pa. Super. 2001).

6. To be clear and free from doubt, it must appear with certainty that the law will not permit recovery by the Petitioner upon the facts averred. *Shumosky v. Lutheran Welfare Servs of Northeastern Pennsylvania, Inc.*, 784 A.2d 196, 202-03 (Pa. Super. 2001).

7. The Court “need not accept as true conclusions of law, unwarranted references from facts, argumentative allegations, or expressions of opinion.” *Richardson v. Beard*, 942 A.2d 911, 913 (Pa. Cmwlth. 2008).

**PRELIMINARY OBJECTION 1**  
**Pa. R.C.P. 1028(a)(1)**  
**THIS COURT LACKS JURISDICTION BECAUSE**  
**THERE IS NO UNDERLYING COMPLAINT**

8. As a threshold matter, because there is no underlying action pending before this Court according to the Pennsylvania Rules of Civil Procedure, this Court must deny the Application for lack of jurisdiction.

9. An action may be commenced in two ways in Pennsylvania: by filing a praecipe for a writ of summons, or by filing a complaint. *See* Pa. R.C.P. 1007; *see also* *Mickavicz v. Mickavicz*, 2019 WL 64970000, at \*2 (Pa. Super. Dec. 3, 2019) (“A cause of action must be raised in a pleading, specifically a complaint.”) (citing Pa. R.C.P. 1017). Pennsylvania Rule of Civil Procedure 1017 limits the pleadings in an action to a complaint and answer thereto, a reply, a counter-reply, and preliminary objections.

10. The filing filed by Petitioners in this case, styled as an “Application for Emergency Relief and Seeking Preliminary Injunction,” meets neither the requirements for a Complaint nor the requirements for an Application for Preliminary Injunction.

11. First, the filing does not even purport to include a complaint with specific causes of action and, as such, does not meet the applicable requirements of the Rules of Civil Procedure.

12. Under Pa. R.C.P. 1018.1, every Complaint must be filed with a Notice to Defend substantially in the form set forth in Rule 1018.1(b).

13. The filing here lacks a Notice to Defend.

14. Rule 1020(a) requires that the complaint state “each cause of action and any special damage thereto... in a separate count containing a demand for relief.”

15. The filing here does not assert *any* causes of action against Delaware County and merely recites allegations concerning hash testing performed by the Delaware County Board of Elections (“Board”) on its election equipment in anticipation of the upcoming General Election on November 5, 2024.<sup>2</sup>

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<sup>2</sup> Election equipment testing—generally known as “logic and accuracy testing” (sometimes called “L&A testing”) is determined by the Secretary of the Commonwealth. The current L&A testing requirements are set forth in a Directive from the Pennsylvania Department of State dated March 7, 2024, attached hereto as **Exhibit C**. That directive contains *no* requirement that *any* election equipment be hash tested. By performing hash testing on randomly selected pieces of election equipment during L&A testing, Delaware County went *above and beyond* the state mandated L&A testing. The Delaware County Director of Elections is unaware of any other county in the

16. Second, the filing is not a validly filed Application for Preliminary Injunction.

17. Such applications are governed by Pennsylvania Rule of Civil Procedure 1531, which specifically contemplates an application for preliminary injunction *after* an action has been validly commenced. *See* Pa. R.C.P. 1531 (“...the court may act on the basis of the averments of the pleadings or petition...”).

18. As discussed above, because this filing is not a validly filed Complaint, there is no action pending, meaning an Application for Preliminary Injunction has no pleading or petition to rest upon as required by Rule 1531.

19. Without an action pending, this Court lacks jurisdiction to fashion relief in any respect. *Mickavicz*, 2019 WL 64970000, at \*2 (concluding trial court acted correctly in dismissing petition to strike where no complaint had been filed, because no action was pending).

20. The Delaware Court of Common Pleas has dismissed similar applications for injunctive relief on the grounds that there was no underlying complaint filed. *See Hoopes et al v. Delaware County Board of Elections et al*, No. CV-2022-008091, Order to Dismiss (Del. Cty. Ct. Com. Pl., Nov. 3, 2022).

21. Petitioners fail to meet even this basic procedural threshold, and their Application should be denied accordingly.

WHEREFORE, based on the foregoing, Respondent respectfully requests that this Court grant its Preliminary Objections.

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Commonwealth of Pennsylvania that performs *any* hash testing on its election equipment as part of its pre-election L&A testing.

**PRELIMINARY OBJECTION 2**  
**Pa. R.C.P. 1028(a)(5)**  
**PETITIONER MANCINI**  
**LACKS STANDING TO PURSUE A CLAIM**

22. Petitioner Mancini lacks standing to bring this action because he has no particularized interest and the Pennsylvania Supreme Court has already repeatedly rejected his theory of standing based on his status as both a voter and taxpayer.

23. Personal standing requires “a party to have a direct, immediate, and substantial interest in order to initiate litigation.” *Allegheny Reprod. Health Ctr. v. Pennsylvania Dep't of Human Servs.*, 225 A.3d 902, 909 (Pa. Cmwlth. 2020).

24. The requirement that an interest be direct means “that the person claiming to be aggrieved must show causation of the harm to his interest by the matter of which he complains,” while a substantial interest is means there “must be some discernible adverse effect to some interest other than the abstract interest of all citizens in having others comply with the law.” *Wm. Penn Parking Garage, Inc. v. City of Pittsburgh*, 464 Pa. 168, 195, 346 A.2d 269, 282 (Pa. 1975).

25. “In order to be immediate, there must be a causal connection between the action complained of and the injury to the person challenging it.” *Spahn v. Zoning Bd. of Adjustment*, 602 Pa. 83, 115, 977 A.2d 1132, 1151 (Pa. 2009).

26. Mancini has the burden to establish standing. *Markham v. Wolf*, 136 A.3d 134, 140 (Pa. 2016).

27. In *Kauffman v. Osser*, the court held that a voter cannot establish standing on the basis that counting an allegedly invalid ballot dilutes the voter’s vote because the voter’s theory

of harm implicates an interest “common to that of all other qualified electors.” 271 A.2d 236, 240 (Pa. 1970).

28. Similarly, in *Application of Biester*, the Pennsylvania Supreme Court said held that “in the absence of an effect on the amount of tax paid by the plaintiff-taxpayer, the prevention of a waste of tax revenue has been correctly held to be an interest which is not immediate because the detriment to the taxpayer is too remote since he is not directly or specially affected by the loss.” 409 A.2d 848, 851 (Pa. 1979) (internal citation omitted); *see also Boady v. Philadelphia Mun. Authority*, 699 A.2d 1358, 1361 (Pa. Cmwlth. 1997) (“Taxpayer standing may exist only when a taxpayer is challenging obligations placed on the general public or emoluments given through the exercise of governmental power imposed or given by general ordinances or statutes.”) (citing *Drummond v. University of Pennsylvania*, 651 A.2d 572, 577-78 (Pa. Cmwlth. 1994)).

29. Mancini’s Petition states that he “is a resident, taxpayer, and registered voter in the 5th District of Pennsylvania of the United States House of Representatives” Petition ¶ 2.

30. Mancini fails to articulate how his status as either a registered voter or taxpayer confers an immediate and direct interest in this case, *and in fact shows exactly why he does not have standing*.

31. The Petition further declares that, “[g]reater injury will result to the Petitioner, **Voters of Delaware County, Taxpayers of Delaware County, Residents of Delaware County, Residents of PA, and Citizens of the USA** will be injured by Respondent if the requested injunctive relief is not granted,” that “[a]ll candidates, **residents, taxpayers of Delaware County, residents of PA, citizens and candidates of the United States of America** deserve to have a fair election,” and the potential harm is that “candidates **and the general**

**public** will be unable to trust the results of the election, be sure that their vote was not diluted, or that election data was not corrupted, altered, or even fabricated.” *See* Petition ¶¶ 33, 32, and 22 (emphasis added).

32. Because Mancini concedes that he is bringing this case to prevent perceived adverse consequences for residents of Delaware County, Pennsylvania, and the entire United States, his theory for standing fits squarely into the categories already rejected in *Kauffman* and *Biester*.

33. The Petition provides no allegation of how Mancini has any immediate or direct interest in voting machine software, beyond the generalized interest of all voters and taxpayers.

34. Mancini therefore lacks standing to pursue this case, and the Application should be dismissed.

35. Accordingly, Robert Mancini should be dismissed from this proceeding.



WHEREFORE, based on the foregoing, Respondent respectfully requests that this Court grant its Preliminary Objections and dismiss Robert Mancini from this proceeding.

Dated: October 21, 2024

Respectfully submitted,

/s/ J. Manly Parks

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*Attorneys for Respondent Delaware County*

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Fax: +1 215 979 1020  
*Attorneys for Defendant Delaware County*

**NOTICE TO PLEAD**  
You are hereby required to file a response to the enclosed Preliminary Objections within twenty (20) days from the date of service hereof or a default judgment may be entered against you.

*/s/ J. Manly Parks*

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<b>ALFEIA GOODWIN and ROBERT MANCINI</b>	:	<b>COURT OF COMMON PLEAS,</b>
<b>Petitioners</b>	:	<b>DELAWARE COUNTY</b>
	:	
v.	:	<b>ELECTION LAW</b>
	:	
<b>DELAWARE COUNTY</b>	:	<b>NO: CV-2024-8838</b>
<b>Defendant</b>	:	

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**RESPONDENT DELAWARE COUNTY’S MEMORANDUM OF LAW IN SUPPORT OF ITS PRELIMINARY OBJECTIONS TO PETITIONERS’ APPLICATION EMERGENCY RELIEF AND SEEKING PRELIMINARY INJUNCTION**

Pursuant to Pennsylvania Rule of Civil Procedure 1028, Respondent Delaware County hereby submits its memorandum of law in support of its Preliminary Objections, to the Application For Emergency Relief And Seeking Preliminary Injunction (“Petition”)<sup>1</sup> filed by Petitioners Alfeia Goodwin and Robert Mancini (collectively, “Petitioners”) and state as follows:

**I. MATTER BEFORE THE COURT**

Delaware County’s Preliminary Objections are before the Court.

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<sup>1</sup> Petitioners did not file an underlying complaint with their Application for Emergency Relief. To the extent the Court considers Petitioners’ initial Petition to be the underlying Complaint, these objections apply.

## **II. STATEMENT OF QUESTIONS PRESENTED**

1. Should the Court sustain Delaware County’s Preliminary Objections based on lack of jurisdiction, because this filing is not a validly filed Complaint, meaning there is no action pending, and this Court therefore lacks jurisdiction to fashion relief in any respect?

**Suggested Answer:** Yes.

2. Should the Court sustain Delaware County’s Preliminary Objections based on lack of standing, because Petitioner Robert Mancini has no immediate or direct interest in voting machine software, beyond the generalized interest of all voters and taxpayers, and therefore lacks standing?

**Suggested Answer:** Yes.

## **III. FACTUAL BACKGROUND**

On April 5, 2024, the County received a letter from Petitioner Mancini, making various unfounded claims that there was unauthorized software, which he identified as Mathnet.Numerics, on Delaware County’s voting machines.<sup>2</sup> A true and correct copy of this letter is attached as **Exhibit A**.

Later that same day, James Allen, Elections Director for Delaware County, responded to Mancini’s letter via email, explaining in detail that the software Mancini identified as “unauthorized” was in fact a known and tested part of the software on all Hart Verity voting machines. A further exchange of emails followed, concluding with Allen directing Mancini to

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<sup>2</sup> Delaware County does not, strictly speaking, use “voting machines.” Rather, Delaware County generally employs three categories of election equipment: ballot scanners (both precinct-level scanners and central count scanners), which are used to scan paper ballots after they have been marked by voters, ballot marking devices (precinct-level machines sometimes referred to as “touchwriters” that can be used by voters to mark ballots electronically, rather than manually), and printers (which work in conjunction with the ballot marking devices).

the Election Assistance Commission (EAC), which had authorized the software. A true and correct copy of this email exchange is attached as **Exhibit B**.

On October 11, 2024, Petitioners filed their Application for Emergency Relief and Seeking Preliminary Injunction, based on their false and unfounded belief that Mathnet.Numerics—the very same software that Mancini falsely claimed in April of this year was not authorized for use on the Hart Verity system that Delaware County election equipment runs—is unauthorized software that should not be on Delaware County election equipment. *See generally* Petition.

#### **IV. Legal Standard**

Pennsylvania Rule of Civil Procedure 1028 provides the following:

(a). Preliminary Objections may be filed by any party to any pleading and are limited to the following grounds:

- (1) lack of jurisdiction over the subject matter of the action or the person of the defendant, improper venue or improper form of service of a writ of summons or a complaint;
- (2) failure of a pleading to conform to a law or rule of court or inclusion of scandalous or impertinent matter;
- (3) insufficient specificity in a pleading;
- (4) legal insufficiency of a pleading (demurrer); and
- (5) lack of capacity to sue, nonjoinder of a necessary party or misjoinder of a cause of action
- (6) pendency of a prior action or agreement for alternative dispute resolution;
- (7) failure to exercise or exhaust a statutory remedy; and
- (8) full, complete and adequate non-statutory remedy at law.

(b). All preliminary objection shall be raised at one time. They shall state specifically the grounds relied upon and may be

inconsistent. Two or more preliminary objections may be raised in one pleading.

Pa. R. Civ. P. 1028.

Preliminary objections may be granted when the case is clear and free from doubt. *McCullough v. Clark*, 784 A.2d 156, 157 (Pa. Super. 2001). To be clear and free from doubt, it must appear with certainty that the law will not permit recovery by the Petitioner upon the facts averred. *Shumosky v. Lutheran Welfare Servs of Northeastern Pennsylvania, Inc.*, 784 A.2d 196, 202-03 (Pa. Super. 2001). The Court “need not accept as true conclusions of law, unwarranted references from facts, argumentative allegations, or expressions of opinion.” *Richardson v. Beard*, 942 A.2d 911, 913 (Pa. Cmwlth. 2008).

**V. THERE IS NO ACTION PENDING, AND THIS COURT LACKS JURISDICTION TO GRANT RELIEF**

As a threshold matter, because there is no underlying action pending before this Court according to the Pennsylvania Rules of Civil Procedure, this Court must deny the Application for lack of jurisdiction.

An action may be commenced in two ways in Pennsylvania: by filing a praecipe for a writ of summons, or by filing a complaint. *See* Pa. R.C.P. 1007; *see also Mickavicz v. Mickavicz*, 2019 WL 64970000, at \*2 (Pa. Super. Dec. 3, 2019) (“A cause of action must be raised in a pleading, specifically a complaint.”) (citing Pa. R.C.P. 1017). Pennsylvania Rule of Civil Procedure 1017 limits the pleadings in an action to a complaint and answer thereto, a reply, a counter-reply, and preliminary objections.<sup>3</sup>

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<sup>3</sup> Pa. R.C.P. 206.1(a) makes a limited expansion of permissible pleadings to applications to strike and/or open a default judgment or judgment of non pros, as well as any other application designated by local rule to be governed by Rule 206.1. Of the 109 categories of Petition authorized by Delaware County L.R. 206.1, an Application for Emergency Relief and Seeking Preliminary Injunction does not appear.

The filing filed by Petitioners in this case, styled as an “Application for Emergency Relief and Seeking Preliminary Injunction,” meets neither the requirements for a Complaint nor the requirements for an Application for Preliminary Injunction.

First, the filing does not even claim to include a complaint and does not meet the applicable requirements of the Rules of Civil Procedure. Under Pa. R.C.P. 1018.1, every Complaint must be filed with a Notice to Defend substantially in the form set forth in Rule 1018.1(b). The filing here lacks a Notice to Defend. Further, Rule 1020(a) requires that the complaint state “each cause of action and any special damage thereto...in a separate count containing a demand for relief.” The filing here does not assert any causes of action against Delaware County and merely recites allegations concerning hash testing performed by the Delaware County Board of Elections (“Board”) on its election equipment in anticipation of the upcoming General Election on November 5, 2024.<sup>4</sup>

Second, the filing is not a validly filed Application for Preliminary Injunction. Such applications are governed by Pennsylvania Rule of Civil Procedure 1531, which specifically contemplates an application for preliminary injunction *after* an action has been validly commenced. *See* Pa. R.C.P. 1531 (“...the court may act on the basis of the averments of the pleadings or petition...”). As discussed above, because this filing is not a validly filed Complaint, there is no action pending, meaning an Application for Preliminary Injunction has no pleading or petition to rest upon as required by Rule 1531.

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<sup>4</sup> Election equipment testing—generally known as “logic and accuracy testing” (sometimes called “L&A testing”) is determined by the Secretary of the Commonwealth. The current L&A testing requirements are set forth in a Directive from the Pennsylvania Department of State dated March 7, 2024, attached hereto as **Exhibit C**. That directive contains *no* requirement that *any* election equipment be hash tested. By performing hash testing on randomly selected pieces of election equipment during L&A testing, Delaware County has gone *above and beyond* the state mandated L&A testing. The Delaware County Director of Elections is unaware of any other county in the Commonwealth of Pennsylvania that performs *any* hash testing on its election equipment as part of its pre-election L&A testing.

Without an action pending, this Court lacks jurisdiction to fashion relief in any respect. *Mickavicz*, 2019 WL 64970000, at \*2 (concluding trial court acted correctly in dismissing petition to strike where no complaint had been filed, because no action was pending). Further, The Delaware Court of Common Pleas has dismissed similar applications for injunctive relief on the grounds that there was no underlying complaint filed. *See Hoopes et al v. Delaware County Board of Elections et al*, No. CV-2022-008091, Order to Dismiss (Del. Cty. Ct. Com. Pl., Nov. 3, 2022). Petitioners fail to meet even this basic procedural threshold, and their Application should be dismissed accordingly.

**VI. PETITIONER MANCINI LACKS STANDING AND MUST BE DISMISSED.**

Petitioner Mancini must be dismissed from this action because he lacks standing to bring this action. Mancini has no particularized interest, as is required to establish standing, and the Pennsylvania Supreme Court has already repeatedly rejected his theory of standing based on his status as both a voter and taxpayer.

Personal standing requires “a party to have a direct, immediate, and substantial interest in order to initiate litigation.” *Allegheny Reprod. Health Ctr. v. Pennsylvania Dep't of Human Servs.*, 225 A.3d 902, 909 (Pa. Cmwlth. 2020). The requirement that an interest be direct means “that the person claiming to be aggrieved must show causation of the harm to his interest by the matter of which he complains,” while a substantial interest is means there “must be some discernible adverse effect to some interest other than the abstract interest of all citizens in having others comply with the law.” *Wm. Penn Parking Garage, Inc. v. City of Pittsburgh*, 464 Pa. 168, 195, 346 A.2d 269, 282 (Pa. 1975). “In order to be immediate, there must be a causal connection between the action complained of and the injury to the person challenging it.” *Spahn v. Zoning Bd. of Adjustment*, 602 Pa. 83, 115, 977 A.2d 1132, 1151 (Pa. 2009). Further, Mancini has the burden to establish standing. *Markham v. Wolf*, 136 A.3d 134, 140 (Pa. 2016).

In *Kauffman v. Osser*, the court held that a voter cannot establish standing on the basis that counting an allegedly invalid ballot dilutes the voter's vote because the voter's theory of harm implicates an interest "common to that of all other qualified electors." 271 A.2d 236, 240 (Pa. 1970). Similarly, in *Application of Biester*, the Pennsylvania Supreme Court held that "in the absence of an effect on the amount of tax paid by the plaintiff-taxpayer, the prevention of a waste of tax revenue has been correctly held to be an interest which is not immediate because the detriment to the taxpayer is too remote since he is not directly or specially affected by the loss." 409 A.2d 848, 851 (Pa. 1979) (internal citation omitted); *see also Boady v. Philadelphia Mun. Authority*, 699 A.2d 1358, 1361 (Pa. Cmwlth. 1997) ("Taxpayer standing may exist only when a taxpayer is challenging obligations placed on the general public or emoluments given through the exercise of governmental power imposed or given by general ordinances or statutes.") (citing *Drummond v. University of Pennsylvania*, 651 A.2d 572, 577-78 (Pa. Cmwlth. 1994)).

Petitioner Mancini fails to articulate how his status as either a registered voter or taxpayer confers an immediate and direct interest in this case, and in fact, his Petition shows exactly why he lacks standing. Damningly, Mancini's Petition states that he "is a resident, taxpayer, and registered voter in the 5th District of Pennsylvania of the United States House of Representatives" Petition ¶ 2.

The Petition further declares that, "[g]reater injury will result to the Petitioner, **Voters of Delaware County, Taxpayers of Delaware County, Residents of Delaware County, Residents of PA, and Citizens of the USA** will be injured by Respondent if the requested injunctive relief is not granted," that "[a]ll candidates, **residents, taxpayers of Delaware County, residents of PA, citizens and candidates of the United States of America** deserve to have a fair election," and the potential harm is that "candidates **and the general public** will be



unable to trust the results of the election, be sure that their vote was not diluted, or that election data was not corrupted, altered, or even fabricated.” See Petition ¶¶ 33, 32, and 22 (emphasis added). Because Mancini concedes that he is bringing this case to prevent perceived adverse consequences for residents of Delaware County, Pennsylvania, and the entire United States, his theory for standing fits squarely into the categories already rejected in *Kauffman* and *Biester*. The Petition provides no allegation of how Mancini has any immediate or direct interest in voting machine software, beyond the generalized interest of all voters and taxpayers. Mancini therefore lacks standing to pursue this case. Accordingly, Robert Mancini should be dismissed from this proceeding.

**VII. RELIEF**

WHEREFORE, based on the foregoing, Respondent respectfully request that this Court grant its Preliminary Objections.

Dated: October 21, 2024

Respectfully submitted,

/s/ J. Manly Parks

J. Manly Parks (74647)

Audrey M. Adams (334493)

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*Attorneys for Respondent Delaware County*

**CERTIFICATE OF SERVICE**

I hereby certify that on this date I caused a true and correct copy of the foregoing Preliminary Objections and Memorandum of Law in Support to be filed and served via this Court's e-filing system and by regular mail upon all pro se parties of record.

Dated: October 21, 2024

/s/ J. Manly Parks

J. Manly Parks

Copying Prohibited  
RETRIEVED FROM DEMOCRACYDOCKET.COM

# Exhibit A

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RETRIEVED FROM DEMOCRACY DOCKET.COM

**UNAUTHORIZED SOFTWARE ON DELAWARE COUNTY'S  
ELECTRONIC VOTING SYSTEM**

Copies of this letter initially sent to:

Pennsylvania Department of State  
401 North Street, rm 302  
Harrisburg PA 17120  
Attn Secretary Schmidt

US Election Assistance Commission  
633 3<sup>rd</sup> St NW Suite 200  
Washington DC 20001  
Attn Commissioner Hovland

Delaware County Board of Elections  
201 West Front Street  
Media PA 19063  
Attn: James Allen Director of Elections

Delaware County Bureau of Elections  
201 West Front Street  
Media PA 19063  
qAttn: Ashley Lunkenheimer

2024 APR - 5 P 12: 27  
COUNTY OF DELAWARE  
BOARD OF ELECTIONS

RM

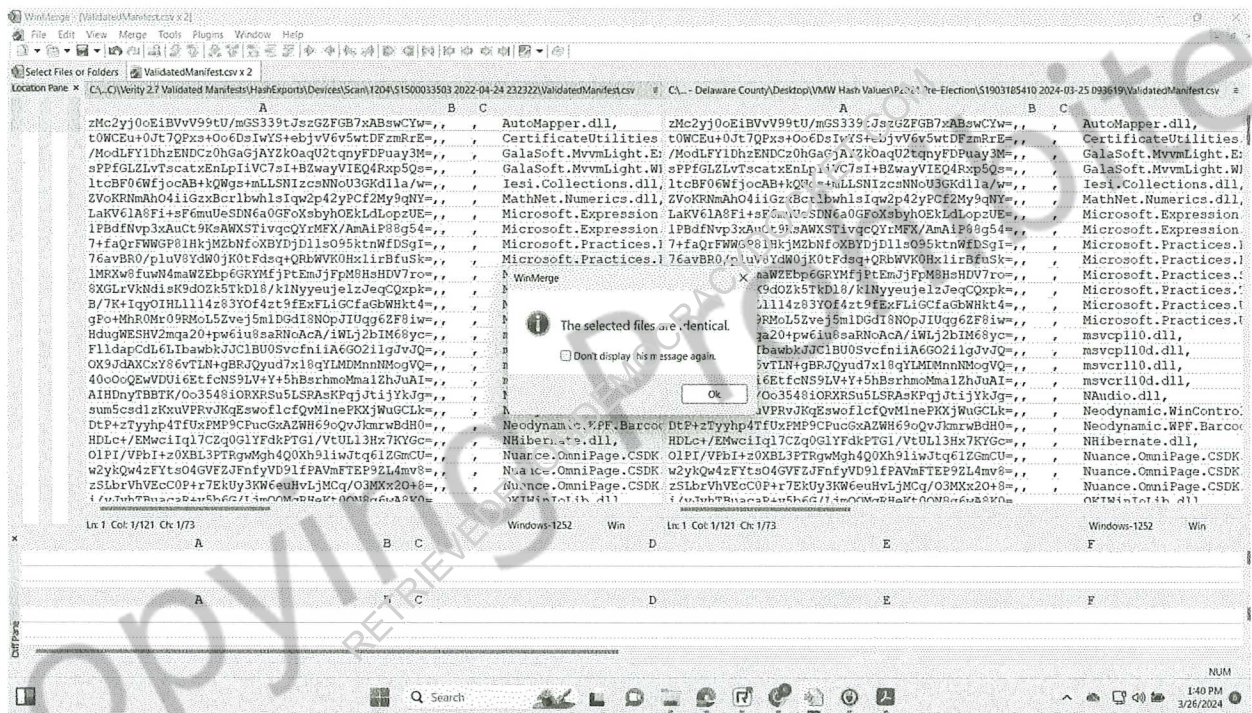
# UNAUTHORIZED SOFTWARE ON DELAWARE COUNTY'S ELECTRONIC VOTING SYSTEM

Dear Mr. Allen with copies to Mr. Schmidt, Ms. Lunkenheimer and Mr. Hovland

There is unauthorized software on Delaware County's Hart Verity 2.7 Electronic Voting System.

## This requires immediate attention!

On or About March 25, 2024 Delaware County performed a secure build validation (what you call hash testing) on only 9 of the County's 428 precinct machines. On the partial manifest a file appears, Mathnet.Numerics.Dll. see below just above the popup.



- 1) This is the dynamic link library for Mathnet.Numerics software [ <https://numerics.mathdotnet.com/>].
- 2) This software is used for manipulation of data.
- 3) This software is NOT listed on The PA Department of State Certification of the system [ <https://www.dos.pa.gov/VotingElections/Documents/Voting%20Systems/Hart%20Verity%20Voting%202.7/Hart%20Verity%20Voting%202.7%20Final%20for%20web.pdf>]
- 4) This software is NOT listed in the EAC test report for Hart 2.7, specifically section 2.1 software and firmware. [ [https://www.eac.gov/sites/default/files/voting\\_system/files/Hart%20Verity%202.7%20EAC%20Electrical%20Hardware%20Test%20Plan%20v3.0.pdf](https://www.eac.gov/sites/default/files/voting_system/files/Hart%20Verity%202.7%20EAC%20Electrical%20Hardware%20Test%20Plan%20v3.0.pdf)]

## UNAUTHORIZED SOFTWARE ON DELAWARE COUNTY'S ELECTRONIC VOTING SYSTEM

- 5) This software is NOT listed in the EAC Trusted Build for Hart 2.7  
[[https://www.eac.gov/sites/default/files/voting\\_system/files/Attachment%20E%20-%20Trusted%20Build%20Record%20for%20Verity%20Voting%202.7.1\\_0.pdf](https://www.eac.gov/sites/default/files/voting_system/files/Attachment%20E%20-%20Trusted%20Build%20Record%20for%20Verity%20Voting%202.7.1_0.pdf)]

This are several actions that need to be immediately taken.

- 1) Those machines need to be immediately secured
- 2) An investigation of how that software appeared in the system need to be conducted. This would include an inspection of the administrator logs due to the fact that software cannot be installed with Administrator privileges and whenever software is installed, that will show up on the Administrator Logs.
- 3) A complete Secure Build validations on all machines in Delaware County need to be inspected to see if that software is on all machine.
- 4) Delaware County needs to be more forthcoming and open about records pertaining to Elections

As Pennsylvania is a state that will be paramount in determining the outcome of the 2024 Election, full public disclosure is a must!!!

V/R

Robert Mancini  
4 Guernsey Lane  
Media PA 19063  
Delcocyber@gmail.com

*Robert Mancini*  
04 APR 2024

# Exhibit B

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RETRIEVED FROM DEMOCRACY DOCKET.COM

**Adams, Audrey M.**

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**From:** Allen, Jim <AllenJ@co.delaware.pa.us>  
**Sent:** Friday, April 12, 2024 1:13 PM  
**To:** Robert Mancini  
**Cc:** OpenRecords  
**Subject:** RE: (EXTERNAL) Re: (EXTERNAL) Re: (EXTERNAL) Re: (EXTERNAL) Re: (EXTERNAL) Re: Successful hash-testing results  
**Attachments:** 2024-L&A-Attestation-Delaware-County-04-05.pdf; M2023-L-and-A-Certification-Delaware-10-21.pdf

Robert Mancini,  
Your request falls squarely under the Election Code, and is not covered under Right to Know, consistent with court rulings on OOR findings.  
Accordingly, this response is being provided under the Election Code.  
Jim

**James P. Allen**  
Elections Director  
Delaware County, Pennsylvania

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**From:** Robert Mancini <delcocyber@gmail.com>  
**Sent:** Friday, April 12, 2024 11:30 AM  
**To:** Allen, Jim <AllenJ@co.delaware.pa.us>  
**Cc:** OpenRecords <OpenRecords@co.delaware.pa.us>  
**Subject:** (EXTERNAL) Re: (EXTERNAL) Re: (EXTERNAL) Re: (EXTERNAL) Re: (EXTERNAL) Re: Successful hash-testing results

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Right to know request. As delco seems to have a peculiar interpretation of the law i am filing it with both RTK and dept of Elections

On Wed, Apr 10, 2024 at 6:29 PM Allen, Jim <[AllenJ@co.delaware.pa.us](mailto:AllenJ@co.delaware.pa.us)> wrote:

Robert Mancini,

I cannot and do not represent the EAC or the Department of State.

There is no unauthorized software, just your astounding leap to a wrong conclusion based on a document that does not portend to list all of the software examined by the VSTL during the certification process.

For the fourth time, we have hash tested against the EAC's hash, and all of the software on the Delaware County Hart equipment tested was a 100% match to the EAC-issued hash for this very same equipment. The only evidence we have is that all of the software is 100% correct.

Lastly, feel free to appeal to the state now – as we are not the agency to represent the EAC or the Department of State.



Jim

---

**From:** Robert Mancini <[delco cyber@gmail.com](mailto:delco cyber@gmail.com)>

**Sent:** Wednesday, April 10, 2024 6:02 PM

**To:** Allen, Jim <[AllenJ@co.delaware.pa.us](mailto:AllenJ@co.delaware.pa.us)>; OpenRecords <[OpenRecords@co.delaware.pa.us](mailto:OpenRecords@co.delaware.pa.us)>

**Subject:** (EXTERNAL) Re: (EXTERNAL) Re: (EXTERNAL) Re: (EXTERNAL) Re: Successful hash-testing results

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Mr. Allen, you should be in possession of such a document, or in the process of acquiring it both from the EAC and DoS is you are not negligent in you duties. I have already requested them as i know you would be less than forthcoming, which begs the question what are you hiding.

As the person responsible for the machines and the unauthorized software, you should be investigating the matter, unless your are negligent.

You cannot say that you did not know, as by this correspondence you are aware of the software and are certain of your position.

I will give you the five business days before i appeal to the state. Attached again is the County RTK officer.

the documents are

This is a now officially a right to know request, please provide

- 1) the document that lists the software (Mathnet.Numerics) as tested by the EAC and Department of State.
- 2) the procedure the EAC specifies after discovering a voting machine that has unauthorized software on it.
- 3) Please produce a copy of the 9 machine administrator logs that you "hash" tested from the time that Hart 2.7 was installed (Feb11,2023) to present.
- 4) The procedure the DOS specifies after discovering a voting machine that has unauthorized software on it.

v/r

Robert Mancini

On Wed, Apr 10, 2024 at 9:15 AM Allen, Jim <[AllenJ@co.delaware.pa.us](mailto:AllenJ@co.delaware.pa.us)> wrote:

Robert Mancini,

If you are in search of more documents from the EAC, you need to contact the EAC.

The hash test of the software fingerprint on the Hart equipment used by Delaware County was successful, in that it was a 100% match to the hash provided by the EAC for the Hart equipment.

Jim

---

**From:** Robert Mancini <[delcocyber@gmail.com](mailto:delcocyber@gmail.com)>

**Sent:** Tuesday, April 9, 2024 6:33 PM

**To:** Allen, Jim <[AllenJ@co.delaware.pa.us](mailto:AllenJ@co.delaware.pa.us)>

**Subject:** (EXTERNAL) Re: (EXTERNAL) Re: (EXTERNAL) Re: Successful hash-testing results

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1) I will take that as a know to my RTK request for all documents, and if you read the Election Code, those documents are public

2) Pease provide me the EAC document you referenced that mentions mathnet.numerics and you can end this real fast..If you cannot provide the EAC document that mention mathnet.numerics I will have to escalate this matter.

On Mon, Apr 8, 2024 at 5:54 PM Allen, Jim <[AllenJ@co.delaware.pa.us](mailto:AllenJ@co.delaware.pa.us)> wrote:

Robert Mancini,

First off, election records are covered under the Election Code, not Right to Know.

Next, we have provided the documentation in question and are not going to enter into a debate about something that has already been demonstrated and established as fact – that the software fingerprint (or hash) on Delaware County’s Hart equipment is 100% identical to the software fingerprint (or hash) issued by the EAC for this very same Hart equipment. The very document that you cited in your complaint last week lists the software that you question on **both the Delaware County side of the hash test for the Hart equipment – and the EAC side of the hash test for the Hart equipment.**

Again, Delaware County’s software hash test was successful and proved that Delaware County’s Hart equipment contains only the software authorized by the EAC for the Hart equipment.

If you care to dispute that, you need to contact the EAC about its hash and/or its software listings.

Jim

---

**From:** Robert Mancini <[delcocyber@gmail.com](mailto:delcocyber@gmail.com)>  
**Sent:** Monday, April 8, 2024 5:02 PM  
**To:** Allen, Jim <[AllenJ@co.delaware.pa.us](mailto:AllenJ@co.delaware.pa.us)>; OpenRecords <[OpenRecords@co.delaware.pa.us](mailto:OpenRecords@co.delaware.pa.us)>  
**Subject:** (EXTERNAL) Re: (EXTERNAL) Re: Successful hash-testing results

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I copied Delaware Counties RTK office.

Mr Allen, Only the software listed in The EAC Certification and The Department of State certification (which i provided you) are allowed. If it is allowed it would be listed there. KNOWINGLY operating an Electronic Voting System that is not in the configuration tested by the EAC and DOS is almost certainly a crime. I suggest you investigate it, especially since you acknowledged under oath that you do not understand the technical aspects of a system. Please show me the document that lists that software, The EAC whitelists software use on the Trusted build, any software not on that build is not allowed on the system.

This is a now officially a right to know request, please provide

- 1) the document that lists the software (Mathnet.Numerics) as tested by the EAC and Department of State.
- 2) the procedure the EAC specifies after discovering a voting machine that has unauthorized software on it.
- 3) Please produce a copy of the 9 machine administrator logs that you "hash" tested from the time that Hart 2.7 was installed (Feb11,2023) to present.
- 4) The procedure the DOS specifies after discovering a voting machine that has unauthorized software on it.

On Sat, Apr 6, 2024 at 4:59 PM Allen, Jim <[AllenJ@co.delaware.pa.us](mailto:AllenJ@co.delaware.pa.us)> wrote:

Robert Mancini,

A certification does not need to reference every program and subcomponent that was tested during the certification. To wit, "The **hash codes** for all system components were captured using the process listed in the manufacturer's Technical Data Package (TDP) by the Functional Examiner with assistance from a Hart representative. The Functional Examiner further compared and confirmed that all the captured hash codes matched the hash codes for the EAC certified system executables before executing the test scripts."

From there, you have jumped to completely wrong conclusions. Delaware County has the proper software running on the Hart equipment and has verified that with the hash test. Our hash test matched the very hash codes, referenced above, from the EAC. Additionally, our hash testing is not required, but Delaware County is among the very few (if not the only) jurisdiction in Pennsylvania to perform this extra level of testing and review on randomly selected equipment. The hash testing is an extra, optional layer of testing that is not required by the certification or the Department of State directive on Logic & Accuracy testing. The recent hash testing, as well as all previous hash testing ahead of elections, was successful.

Next, you are yet again mischaracterizing and misrepresenting the trusted build validation and confusing it with an actual trusted build. Delaware County has performed the validation on every machine ahead of every election and after every election by examining the tapes that validate that the equipment is running on Hart Verity 2.7. (Prior to 2023, it was an earlier iteration and the same process for validation – checking the tapes.) You are wrongly confusing **validating** a trusted build with actually **performing** a top-to-bottom trusted build. Performing a top-to-bottom trusted build is done by the VST Laboratory – at the federal certification process, not by a local jurisdiction performing Logic & Accuracy testing. The VSTL performs the trusted build to emulate the vendor's manufacturing process and the vendor's instructions for using the balloting system. The trusted build includes starting with hardware components and then loading all of the vendor's software components before using that software to: program a mock election; print ballots for that mock election; test the mock-election ballots; program the voting equipment for the mock election; executing the mock election; gathering the mock election results; and then verifying that all of the systems functioned as designed to the standards required by law. Again, that is a process for the VST Laboratory to perform at federal certification. The trusted build is not a process for the local jurisdiction to perform at Logic & Accuracy testing. In Logic & Accuracy, the jurisdictions perform a **validation** by examining the power-on self-test report. Any time the device is powered on, a report prints out with a time stamp and **firmware version**.

Again, the hash testing was successful and the Logic & Accuracy was successful. Through it all, the testing and validations verified that the proper programs are running on the Hart voting equipment that is being used by Delaware County's voters and poll workers.

Jim

**From:** Robert Mancini <[delcocyber@gmail.com](mailto:delcocyber@gmail.com)>  
**Sent:** Saturday, April 6, 2024 3:45 PM  
**To:** Allen, Jim <[AllenJ@co.delaware.pa.us](mailto:AllenJ@co.delaware.pa.us)>  
**Subject:** (EXTERNAL) Re: Successful hash-testing results

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ease f=reference the Software in question?

I will also refer you tom page 28 subsection J which requires you to do a certify build on all machines, not just 9.

On Fri, Apr 5, 2024 at 11:14 PM Allen, Jim <[AllenJ@co.delaware.pa.us](mailto:AllenJ@co.delaware.pa.us)> wrote:

Robert Mancini,

We are in receipt of the misinformation that you submitted (dated April 4, 2024) about the Hart equipment used by Delaware County and about the very recent and very successful hash testing that Delaware County performed to verify that our balloting systems and equipment contain only the correct, proper and certified software.

The very graphic you included stated the results of the very successful hash test: “The selected files are identical.” In other words, the hash test of the software fingerprint on Delaware County’s Hart voting equipment perfectly matched (and matches) the fingerprint of the software that was certified for use for that very same Hart equipment. That software certification was completed first by the United States Election Assistance Commission, and then completed by the Pennsylvania Department of State.

Further, please note the following information from the vendor, Hart, in response to your inquiry: The specific part of the DLL software that you (Robert Mancine) cited **is a known and tested** component of the Hart Verity voting system. This specific part of the DLL software is and always has been part of the tested, certified product and it correctly belongs on this balloting system for its proper use and accurate tabulations of votes. The Voting System Test Laboratory (VSTL), in accordance with the Help America Vote Act (HAVA), conducted thorough security testing as part of the certification process, including a full source-code review of all software components. The specific DLL that you (Robert Mancini) cited is a proper and correct subcomponent of the Hart audio engine, which is a part of the common software library **that is included on all certified Hart devices.**

Again, and in closing, only the exact software that was included in the EAC certification process for the Hart Verity equipment is loaded on the Hart Verity voting equipment that is being used by Delaware County. The very recent and very successful hash testing verified that fact.

**James P. Allen**

Elections Director

Delaware County, Pennsylvania

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# Exhibit C

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# Directive on Logic & Accuracy Testing

Date: March 7, 2024

Directive 1 of 2024

Version: 3.0



## Directive 1 of 2024

The following directive is issued March 7, 2024, by the Secretary of the Commonwealth of Pennsylvania pursuant to authority contained in Sections 201 and 1105- A of the Election Code, 25 P.S. §§ 2621, 3031.5.

### Background

All counties in Pennsylvania must conduct pre-election logic and accuracy testing (L&A testing) prior to every election (primary, general, special, or municipal) that is conducted in their jurisdiction.

L&A testing is a series of pre-election steps intended to ensure that ballots, scanners, ballot-marking devices, and all components of a county's certified voting system are properly configured and in good working order prior to being used in an election. These steps must include every procedure that counties will use in the actual election.

L&A testing promotes election integrity by:

- 1) Providing election officials an opportunity to identify and redress errors in election definition, ballot format, and layout, including, but not limited to, appropriate locations for folds on absentee/mail-in ballots, missing races, missing party identification, misspellings of candidate names, incorrectly worded ballot questions, and incorrect tabulation.
- 2) Exposing inadequate, incorrect, or faulty election supplies, such as incorrect paper stock and memory cards that have not been properly wiped of data and reformatted.
- 3) Demonstrating to political parties, candidates, the media, and voters that the county is prepared for the upcoming election and the voting equipment has been adequately tested, which promotes confidence in the integrity of Pennsylvania elections.

Following completion of L&A testing, each county election board shall certify to the Secretary when they have completed their L&A testing and shall identify the system configuration for the election. The certification shall be on a form prescribed and furnished by the Secretary, a copy of which is attached as Appendix A. County election boards must complete the certification at least **fifteen (15) days prior to every election** held in their jurisdiction and must submit the certification electronically to the Department of State as prescribed by the Bureau of Elections.

## Summary of L&A Testing Goals

- Verify that all ballots are accurately defined, including:
  - All necessary contests (races) are properly programmed, including special elections, retention elections, and ballot questions.
  - Ballot styles are properly mapped to their respective precincts. A “ballot style” is a ballot’s particular array of election contests and candidates, specific to each election precinct.
  - Candidate names are correctly spelled.
  - Contests and candidates are displayed in the required order.
  - The parties or political bodies of candidates are properly identified.
  - Names of all parties/independent political bodies are correctly spelled.
  - Audio files are present and properly configured for all candidates and ballot questions.
- Verify that all votes are aggregated and tabulated correctly, and that all accompanying hardware is in working order.
- Verify that all voting system component configurations meet federal and state certification standards and conditions.
- Verify that the voting system software/firmware works as expected.

## Testing of Absentee and Mail-in Ballots

Prior to beginning the structured L&A testing, test the printed ballots that will be issued to voters to confirm that the ballots are accurate and can be read by the tabulating equipment once they are returned for counting. Test these ballots on the equipment that will be used to centrally count mail ballots. If using a ballot-on-demand (BOD) printer to print mail ballots, test the functionality of the printer for all ballot styles.

- 1) Prepare the BOD printer following the manufacturer’s procedures and load the required ballot definition files on the BOD printer. Print ballots of all ballot styles and sets that will be printed for election use.
- 2) If using pre-printed ballots or a mailing house, gather from the print vendor test ballots for all ballot styles to be used in the election.

- 3) Mark ballots of each ballot style and set type (absentee/mail-in) following the “tabulation test voting pattern” and scan them using both a central scanner and a precinct scanner.
- 4) A good way to test all of the ballots is to create an “all poll” media device for the scanners, which will permit all ballot styles for the election to be scanned.
- 5) Fold some ballots comparable to the manner in which absentee and mail-in ballots are received.
- 6) Scan the ballots on the central scanner following the exact same process that you will follow on Election Day.
- 7) Scan the ballots four (4) times on the precinct scanner, each time changing the direction in which the ballot is inserted into the scanner. The goal of this test is to ensure that all printed ballots can be read by the tabulator in all orientations.
- 8) Once ballots are tested for absentee and mail-in voting, changes should not be made to a county’s election definition. If the election definition is changed after testing is completed, ballots must be retested. If the election definition is changed after the county has distributed any absentee or mail-in ballots, when these ballots are returned the ballots will either need to be hand-counted or a ballot duplication team will need to transfer the voter’s votes to a ballot that can be tabulated by the voting equipment. Follow the procedure outlined in section 1114-A of the Election Code, 25 P.S. § 3031.14, for creating a true duplicate copy of a damaged or defective ballot. When a ballot is duplicated, the county must maintain both the original and duplicate ballot and record an identical serial number on each.

## Preparing for Full L&A Testing

### Notice and Public Observation

Under Section 1110-A(d) of the Election Code, 25 P.S. § 3031.10(d), no later than forty (40) days before an election, the county election board must mail a written notice stating the date, time, and location when L&A testing will begin to:

- the chairman of each political party recognized to participate in a primary election within the county; and
- the chair or presiding officer of any citizens’ organization which has registered its name and address at least fifty (50) days before such election.

Further, county boards should provide at least forty-eight (48) hours' notice to the public of the time and place of the test to provide the public an opportunity to attend. The public notice:

- may be placed in a newspaper or legal publication that has a countywide distribution;
- should outline the starting time and location of the testing; and
- need not include an ending time for the testing.

The preparation and testing of voting equipment must be open to the public to observe; however, such members of the public shall not in any manner interfere with the preparation and testing of the voting equipment units. To prevent any interference by the public when observing, the county may make reasonable rules and regulations concerning the conduct of those members of the public who wish to observe. These rules shall not prevent members of the public from fairly observing and should be published after public approval by the elections board subject to 25 P.S. § 2642(f).

### Preparing for Testing

In addition to issuing notice, counties should do the following when preparing for L&A testing:

- 1) Review the Secretary's certification report for the county's voting system to ensure that the voting system components are being prepared to meet all conditions of the report that apply in the county's upcoming election.
- 2) Proofread all balloting materials. The Department recommends using more than one proofreader and proofreading at multiple stages. Proofread ALL ballot types, including Election Day ballots, absentee ballots, mail-in ballots, provisional ballots, bilingual or alternative language ballots, accessible (audio) ballots, federal ballots, partisan and non-partisan ballots, and emergency ballots.
- 3) Ensure that there are enough multi-partisan teams to conduct the testing. If the county needs to employ additional staff, the Department recommends employing precinct officials and not third-party vendor personnel.
- 4) Ensure a county election official is present to independently verify and attest to the testing results if a vendor will be participating in L&A testing.
- 5) Ensure the designated location has adequate space to conduct testing.

- 6) Complete an inventory, or manifest, of all devices to be used on Election Day, including backup equipment not directly assigned to a specific polling place. All component devices of the voting system must be tested during L&A testing.
- 7) Prepare a task list detailing every action to be taken during the testing, following the instructions in this directive. Testing scenarios should mimic election activities as much as possible.

### Preparation of Test Decks and Testing Scenarios

Create a test deck for each ballot style and voting system component. These test ballots will be used to simulate Election Day activities during the testing process.

Test decks should consist of ballots voted with a pre-determined number of valid votes for each candidate, retention election, ballot question, and write-in position that appears on every ballot style that will be used in the upcoming election. Counties should consider the many types of scenarios that can occur during an election and replicate them using the test decks to ensure voting system logic and accuracy.

*The Department strongly discourages relying solely on automated L&A testing or using only preprinted ballots provided by vendors. Manual entry of votes, using pre-audited ballots prepared by election officials, is the most effective way to identify potential errors and anomalies.*

When preparing test decks, counties should ensure the following:

- 1) Test decks should include ballots printed via all printing options — including by the ballot printing or mail house vendor, from a BOD printer, and ballots generated from a ballot-marking device (BMD). The goal is to ensure that test deck ballots are printed under the exact same conditions as live ballots that will be provided to and voted by the voters.
- 2) The same paper stock should be used for testing that will be used for the election.
- 3) Test decks should include all ballot sets and styles to be used in the election (including, for example, Election Day ballots, absentee ballots, mail-in ballots, emergency ballots, provisional ballots, ballot on demand, ballot-marking devices, accessible ballots, non-partisan ballots, bilingual ballots, and federal ballots).
- 4) Test decks should encompass scenarios that include votes for all candidates, write-ins, retention elections, ballot questions, and candidates for special elections that are held concurrent with regularly scheduled elections.

- 5) Test decks should include ballots in all languages.
- 6) Test decks should encompass scenarios including votes for all ballot positions.

Additionally, test decks must include ballots that are intended to fail or trigger equipment warnings. The goal is to ensure that the voting system components will adequately flag or reject improperly marked ballots and that such ballots will not affect tabulation.

Improperly marked ballots include ballots:

- with more votes than allowed for all contests;
- with more votes than allowed for randomly selected contests;
- with no votes for any contest;
- voted with ambiguous marks in the target area for all candidates (if applicable); and
- from an incorrect ballot set for the same precinct.

#### Tabulation Test Voting Variation

Preparing the test decks includes voting a pre-determined number of valid votes for each candidate, write-in position, and option on every ballot question and retention election to verify the voting system accurately tabulates votes. The county should use Microsoft Excel or other software to document the pre-determined votes, calculate the anticipated results, and compare them to the results produced by the voting system during testing.

The Department **strongly recommends** preparing test decks such that **each choice in each election contest is given a unique number of votes**. Write-in options should count as a choice, and for ballot questions and retention elections, “Yes” and “No” should count as different choices. For example, in an election contest involving three candidates and a write-in option, one choice should receive one vote, and the other choices should receive two votes, three votes, and four votes, respectively.

The county also should vary vote patterns across election contests. For example, where a ballot contains two ballot questions, each with “Yes” and “No” choices, the county should prepare the test deck such that one ballot question receives two “Yes” votes and one “No” vote, and the other ballot question receives one “Yes” vote and two “No” votes.

This is the best tabulating testing pattern that will make it easiest to identify errors or issues. Alternatively, counties may employ one of the following patterns:

- Incremental/decremental pattern: For each election contest, the county sets the highest vote total any choice may receive and then assigns votes to the remaining choices in that contest in an increasing or decreasing pattern. For example, in an election contest involving five candidates and a write-in option, the county could set the highest vote total at three and give the first choice three votes, and the other choices two votes, one vote, three votes, two votes, and one vote, respectively. This pattern should then be varied across election contests, so that results for contests with similar choices can easily be distinguished.
- Alternating pattern: For each election contest, the county sets the highest vote total any choice may receive and then assigns votes to the remaining choices in that contest in an alternating pattern. For example, in an election contest involving five candidates and a write-in option, the county could set the highest vote total at two and give the first choice two votes, and the other choices one vote, two votes, one vote, two votes, and one vote, respectively. This pattern should then be varied across election contests, so that results for contests with similar choices can easily be distinguished.

The county **must not** prepare test decks such that each choice in an election contest receives only a single vote, or all choices are not voted for at least once. ***If the anticipated result is the same for each choice in an election contest, or for each election contest with similar choices, the county may be unable to confirm that the voting system is accurately tabulating votes.***

The county must repeat the same pattern when preparing test decks for each ballot set, as applicable.

### Preparation of Media Device

Before data for an election can be placed on any memory card for an optical scan tabulator, central count scanner, or ballot-marking device, the data contained on the memory card from any previous election must be removed under the guidelines of the relevant voting system. Ensure that the media device has been fully formatted before using it for L&A testing.

- 1) Inspect all media devices and ensure that they are formatted, labeled, and numbered appropriately.
- 2) Label the media device with the name of the poll (e.g., precinct name, absentee, mail-in, provisional). It is a best practice to make the marking and labelling as evident as possible. For example, write the precinct name/number and device

name clearly. As a best practice, use different colored labels for primary and redundant (back-up) media devices.

- 3) Download the election information to the media devices according to the voting system manufacturer's instructions.
- 4) Create a media device for each precinct scanner or central scanner that will be used in the election.

### Preparation of Voting Equipment

L&A testing must include testing every hardware component of the voting system, regardless of whether it will be deployed to a precinct or retained at the warehouse as a backup. Below is a list of items to be tested or verified during L&A testing for an election:

- 1) Ballot-marking devices
- 2) Precinct scanners
- 3) Central count scanners
- 4) Connected printers
- 5) Connected peripherals for ADA voting equipment

Prior to the testing, perform the following checks:

- 1) Inspect the physical condition of the equipment and locks and sealing mechanisms to ensure they are intact.
- 2) Power on the devices and validate that the certified software/firmware is installed.
- 3) Check the batteries in voting systems that use batteries as either the primary power source, or as backup to the primary power source.
- 4) Implement a process to ensure that all batteries are fully charged for Election Day.
- 5) Check the scanner heads on all precinct scanners.
- 6) Check the calibration of scanners.
- 7) Verify the calibration of any ballot-marking device screens and replace or repair as needed.



- 8) Verify the date and time settings on all voting systems.
- 9) Verify that all media devices are “zeroed out.”
- 10) Verify that each device is labelled with its assigned precinct or polling place where it will be deployed and is accurately listed on your county’s inventory or manifest list.

## Conducting L&A Testing

All components being used for the election, including all ballot styles, precinct scanners, central count scanners, accessible devices, and any backup equipment being used, must be part of the L&A testing.

### Administrative Steps

As described above in section 3.1, the county board of elections may establish reasonable rules and regulations for public observation of L&A testing. The board must also be available during the first day of preparation, at the beginning of the day or for the first hour of public observation, to explain the process and respond to questions. The following practices must be observed:

- 1) Administer an oath to those persons conducting the L&A tests who are not permanent elections staff.
- 2) Establish an area where the public can observe the process.
- 3) Allow only election officials and those conducting tests into the testing area.
- 4) Prohibit the photocopying of any testing reports or other materials.
- 5) Prohibit photographic and audio equipment, including cellphone cameras, from being used to record security seals or serial numbers. While the news media may report on the testing process, counties must ensure that security seals, serial numbers, locks, and other details concerning security measures are not recorded or displayed.

### Ballot-Marking Device Testing

The functionality and accuracy of ballot-marking devices (BMDs) must be included in any pre-election testing protocols. A test deck must be created using a BMD based on the guidelines outlined in the "Preparation of Test Decks and Testing Scenarios" in this document. Once the BMD test deck is created, the ballots must be tested on a related scanner. It is also necessary to test the various devices available to voters with disabilities for use on Election Day, including audio voting features, tactile discernible

controls, and pneumatic switch attachments which can be operated orally or by vacuum pressure (AKA sip-and-puff devices).

### Ballot-Marking Device Setup and Preparation

- 1) Set each voting system to be tested to “election mode” rather than “test mode.”
- 2) Review and confirm that the prepared test decks contain all the applicable test cases suggested in the “Tabulation Test Voting Variation” section of this document. Print any “open polls” or zero tape report that can be printed from the BMD, and confirm that the expected contest order on the zero tape matches the contest order on the test ballots.
- 3) Perform all the actions that would take place on Election Day. The goal is to test all actions as they would occur on Election Day.
- 4) For each ballot style, mark and print ballots following the tabulation test voting variation on at least one BMD.
  - a. Use touchscreen, audio ballot, Audio Tactile Interface (ATI) controller and any other assistive devices provided by the manufacturer.
  - b. Use ballots in all languages used on Election Day.
  - c. Use all the accessible features provided for the ballot: font, contrast, audio-only mode, etc.
  - d. After printing each ballot, review the ballots produced by the BMD to ensure the printed ballots match the choices that were made on the BMD screen. Review the printed ballot to ensure that the contests are listed in the correct order; all the races, including retentions, show the candidate names; and ballot questions are identifiable. The printed ballot must allow the confirmation of each choice that was made on the BMD screen.
- 5) County election boards must test and prepare any BMDs intended to be used as backup devices. Since it is hard to predict where the device might be used, the best approach is to test at least two random ballot styles.

### Test Closing Procedures

- 1) Perform end-of-day polling place activities as would be performed on Election Day.
- 2) Perform a review of marked and printed ballots to ensure that ballots are marked accurately as required by the test voting variations.

- 3) Gather prepared ballots for scanning.
- 4) After confirming that the marked ballots scan and generate expected results, prepare the machines for Election Day:
  - a. Clear the data generated during testing.
  - b. Ensure that the device has all supplies for printing ballots on Election Day.
  - c. Lock and seal the devices.
  - d. Shut the machines down.
- 5) Review the seals and locks once again and document the validation. The best practice is to have one person prepare the machine and then have one or two reviewers review the seals and locks.
- 6) Any discrepancies noted during the L&A testing must be evaluated in detail to identify the root cause of the problem.
- 7) If the problem is isolated to a specific machine, that machine must be marked and must not be used on Election Day.
- 8) Explain clearly to observers if any discrepancies are noted to ensure that everyone present completely understands the process and conclusions.

### Precinct Scanners

Once a test desk and expected results have been validated, test decks are scanned by a bipartisan team of election officials or voting system operators on each voting system for which the ballot style is used. This test is used to check the accuracy of the ballot coding, the ability of the tabulators to accurately record votes marked on the ballots, and the ability of tabulators to accurately tally votes from all scanned ballots. Every scanner that will be used in the election must be tested.

### Precinct Scanner Setup and Preparation

- 1) Set each device to be tested to “election mode” rather than “test mode.”
- 2) Review and confirm that the prepared test decks contain all the applicable test cases suggested in the “tabulation test voting variation” section of this document.
- 3) Load each precinct scanner with the pre-labeled memory cards specific to each Election Day precinct.

- 4) Perform all the actions that would take place on Election Day. The goal is to test all actions as they would happen on Election Day.
- 5) Ensure that the precinct scanner is set for the correct election.
- 6) Open the polls and validate the accuracy of the information displayed on the screens and public counters.
- 7) Print zero reports and validate the reports. Check the date and time, precinct polling place details, election, and that contest totals are zero.
- 8) Once the polls are “open” and a zero tape is generated, the bipartisan team should sign the zero tape to identify the officials participating in the test for each precinct scanner.

#### Test Deck Scanning

- 1) The bipartisan team must then begin scanning the ballots on each voting system for which the given ballot style is valid.
- 2) The team should follow the ballot instructions while marking and processing ballots to ensure that the instructions are clear.
- 3) Scan ballots in all orientations, alternating between all four possible orientations.
- 4) The testing staff should scan at least one ballot using any feature intended to provide voting system access for persons with disabilities. They should also scan at least one ballot using each required language. While one team member scans ballots, the other team member should monitor the equipment to ensure that the scanner and ballot counter are functioning properly.
- 5) The team must review and confirm that all configured error messages display properly.
- 6) Once all ballots from the test deck have been scanned into an individual machine, the team must “close” the polls and run a totals report.
- 7) The team should compare the results reported by the voting system to the expected results, confirm the accuracy of or discrepancies in the results, and determine if the system has passed or failed the test. Any discrepancies indicating a failure must be investigated, resolved, and the system must then be re-tested.

- 8) If a test deck is run and the pre-determined vote count is different than the voting system's tabulated results, the test team should document the problem, and then compare the unique voting variation (test plan) with the test deck pattern to ensure that the test deck was made correctly and that all ballots were scanned.
- 9) Any corrections to the test deck itself, or to the casting of the test deck, should be made, and the test deck should be re-run until two error-free test results are produced. If the tested voting system fails to produce two error-free results, the system should not be used in any election until the problem is resolved and a new round of pre-election testing is successfully completed.
- 10) The pre-election test results reports should be signed by the test team and placed in secure storage for any record retention periods the jurisdiction may require. After all voting systems for which each ballot style is valid have been tested, the test deck should be similarly stored with all corresponding reports, audit trails and log sheets.
- 11) The test should be documented by the testing team on a log created specifically for this purpose. The log shall include:
  - a. The date the test was executed.
  - b. The names of the persons who performed the test and recorded the results,
  - c. The serial number of the machine on which the test was executed,
  - d. The machine's protective counter number as it appeared both at the beginning and conclusion of testing,
  - e. The name or description of the test performed,
  - f. The version number of the software tested,
  - g. The test result – either "pass" if the results match the expected results exactly, or "fail" if there is even one discrepancy.
- 12) Jurisdictions must test and prepare any scanning devices intended to be used as backup devices. Since it is hard to predict where the device could be used, the best approach is to test two random ballot styles.

#### Test Closing Procedures

- 1) Perform end-of-day polling place activities as would be performed on Election Day.

- 2) Gather media including redundant (back-up) media if applicable, with results, upload to the election management system, and generate the consolidated result reports. It is a good practice to use redundant media on Election Day whenever possible. Ensure that the redundant media is also included in testing.
- 3) Document testing results as you would the official results.
- 4) Retain and seal all pre-election testing materials.
- 5) Prepare machines for Election Day use:
  - a. Clear totals.
  - b. Clear the results on the tabulator.
  - c. Insert new printing tapes.
  - d. Lock and seal the devices.
  - e. Shut the machine down.
- 6) Review the seals and locks once again and document the validation. The best practice is to have one person prepare the machine and then have one or two reviewers review the seals and locks.

Any discrepancies noted during the L&A testing must be evaluated in detail to identify the root cause of the problem.

- 1) If the problem is isolated to a specific machine, that machine must be marked and must not be used on Election Day.
- 2) Explain clearly to observers if any discrepancies are noted.

### Central Count Scanners

Test central scanners used at the election office. Jurisdictions using precinct and central scanners can re-scan the ballots used for precinct scanner testing on central scanners to test the central scanners.

### Central Count Scanner Setup and Preparation

- 1) Set each voting machine to be tested to “election mode” rather than “test mode.”
- 2) Review and confirm that the prepared test decks contain all the applicable test cases suggested in the “tabulation test voting variation” section of this document.

- 3) Load each central scanner with the pre-labeled memory cards and prepare them for scanning as you would on Election Day.
- 4) Perform all the actions that would happen at the beginning of the central scanner use on election night.
  - a. Be sure the tabulator is set for the correct election.
  - b. Open the polls and validate the accuracy of the information displayed on the screens.
  - c. Print zero reports and validate the reports, including checking the date and time, precinct polling place details, election, and that contest totals are zero.
- 5) Once the polls are “open” and a zero report is generated, the bipartisan team should validate and confirm that all contests and candidates have zero votes recorded for each central scanner.

#### Test Deck Scanning

- 1) The bipartisan team must then begin scanning the ballots on each central scanner in exactly the same manner as on Election Day.
- 2) Batch ballots as you would on Election Day and prepare them for scanning. Reuse the same ballots marked for precinct scanner testing.
- 3) Fold several marked absentee/mail-in ballots to ensure that the folds do not interfere with the scanning.
- 4) Once all ballots from the test deck have been scanned into an individual machine, the team must “close” the polls and run a totals report.
- 5) The team should compare the results reported by the voting system to the expected results, confirm the accuracy of or discrepancies in the results, and determine if the system has passed or failed the test. Any discrepancies indicating a failure must be investigated, resolved, and the system must then be re-tested.
- 6) If a test deck is run and the pre-determined vote count is different than the voting system's tabulated results, the test team should document the problem, and then compare the unique voting variation (test plan) with the test deck pattern to ensure that the test deck was made correctly and that all ballots were scanned.

- 7) Any corrections to the test deck itself, or to the casting of the test deck, should be made, and the test deck should be re-run until two error-free test results are produced. If the tested voting system fails to produce two error-free results, the system should not be used in any election until the problem is resolved and a new round of pre-election testing is successfully completed.
- 8) The pre-election test results reports should be signed by the test team and placed in secure storage for any record retention periods the jurisdiction may require. After all voting systems for which a particular ballot style is valid have been tested, the test deck should be similarly stored with all corresponding reports, audit trails and log sheets.
- 9) The test should be documented by the testing team on a log created specifically for this purpose. The log shall include, but is not limited to:
  - a. The date the test was executed,
  - b. The names of the persons who performed the test and recorded the results,
  - c. The serial number of the machine on which the test was executed,
  - d. The machine's protective counter number as it appeared both at the beginning and conclusion of testing,
  - e. The name or description of the test performed,
  - f. The version number of the software under test,
  - g. The test result – either “pass” if the results match the expected results exactly, or “fail” if there is even one discrepancy.

#### Test Closing Procedures

- 1) Perform the end-of-central scanning activities as on Election Day.
- 2) Gather media, including redundant (back-up) media if applicable, with results, upload to the election management system, and generate consolidated result reports. It is a good practice to use redundant media on Election Day whenever possible. Ensure that the redundant media is also included in testing.
- 3) Document the testing results as you would the official results.
- 4) Retain and seal all pre-election testing materials.
- 5) Prepare machines for Election Day use:



- a. Clear totals.
  - b. Clear the results on the tabulator.
  - c. Insert new printing tapes.
  - d. Shut the machine down.
  - e. Lock and seal the devices.
- 6) Review the seals and locks once again and document the validation.

Any discrepancies noted during the L&A testing must be evaluated in detail to identify the root cause of the problem. If the problem is isolated to a specific machine, that machine must be marked and must not be used on Election Day.

- 1) Explain clearly to observers if any discrepancies are noted to ensure that everyone present completely understands the process and conclusion.
- 2) Ensure that there is a mix of all types of ballots used by the jurisdiction for the election.

### Hybrid Ballot-Marking Device

Hybrid devices must be tested for both the ballot-marking device functionality and the scanning and tabulation functionality. Counties using hybrid devices must follow the below guidelines for performing L&A testing.

#### Hybrid Ballot-Marking Device Setup and Preparation

- 1) Set each voting machine to be tested to “election mode” rather than “test mode.”
- 2) Review and confirm that the prepared test decks contain all the applicable test cases suggested in the “tabulation test voting variation” section of this document.
- 3) Load each device with the pre-labeled memory cards specific to each Election Day precinct.
- 4) Perform all the actions that would take place on Election Day. The goal is to test all actions as they would happen on Election Day.
- 5) Be sure the tabulator is set for the correct election.
- 6) Open the polls and validate the accuracy of the content displayed on screens and public counters.

- 7) Print zero reports and validate the reports. Check the date and time, precinct polling place details, election, and that contest totals are zero.
- 8) Once the polls are “open” and a zero tape is generated, the bipartisan team should sign the zero tape to identify the officials participating in the test for each precinct scanner.

#### Test Deck Marking and Scanning

- 1) The bipartisan team must then begin marking and scanning the ballots on each voting system for which a given ballot style is valid.
- 2) The team should follow the ballot instructions while marking and processing ballots to ensure that the instructions are clear.
- 3) The testing should include marking of at least one ballot using any feature intended to provide voting system access for persons with disabilities. While one team member is marking and casting ballots, the other team member should monitor the equipment to ensure that it is functioning properly.
- 4) After printing each ballot, review the ballots produced by the BMD to ensure the printed ballots match the choices that were made on the BMD screen. Review the printed ballot to ensure that the contests are listed in the correct order; all the races, including retention races, show the candidate names; and ballot questions are identifiable before casting the ballot.
- 5) The team must review and confirm that all configured error messages display properly.
- 6) Once all ballots from the test deck have been voted into an individual machine, the team must “close” the polls and run a totals report.
- 7) The team should compare the results reported by the voting system to the expected results, confirm the accuracy of and any discrepancies in the results, and determine if the system has passed or failed the test. Any discrepancies indicating a failure must be investigated, resolved, and the system must then be re-tested.
- 8) If a test deck is run and the pre-determined vote count is different than the voting system's tabulated results, the test team should document the problem, and then compare the unique voting variation (test plan) with the test deck pattern to ensure that the test deck was made correctly and that all ballots were scanned.

- 9) Any corrections to the test deck itself, or to the casting of the test deck, should be made and the test deck should be re-run until two error-free test results are produced. If the tested voting system fails to produce two error-free results, the system should not be used in any election until the problem is resolved and a new round of pre-election testing is successfully completed.
- 10) The pre-election test results reports should be signed by the test team and placed in secure storage for any record retention periods the jurisdiction may require. After all voting systems for which a given ballot style is valid have been tested, the test deck should be similarly stored with all corresponding reports, audit trails and log sheets.
- 11) The test should be documented by the testing team on a log created specifically for this purpose. The log shall include, but is not limited to:
  - a. The date the test was executed,
  - b. The names of the persons who performed the test and recorded the results,
  - c. The serial number of the machine on which the test was executed,
  - d. The machine's protective counter number as it appeared both at the beginning and conclusion of testing,
  - e. The name or description of the test performed,
  - f. The version number of the software under test,
  - g. The test result – either “pass” if the results match the expected results exactly or “fail” if there is even one discrepancy.
- 12) Jurisdictions must test and prepare any hybrid devices intended to be used as backup devices. Since it is hard to predict where the device could be used, the best approach is to test two random ballot styles. Scan ballots following the tabulation test voting pattern.

#### Test Closing Procedures

- 1) Perform the end-of-day polling place activities as on Election Day.
- 2) Gather media (including redundant media if applicable) with results, upload to the election management system and generate consolidated result reports. It is a good practice to use redundant media on Election Day whenever possible. Ensure that the redundant media is also included in testing.

- 3) Document testing results as you would the official results.
- 4) Retain and seal all pre-election testing materials.
- 5) Prepare the machines for Election Day use:
  - a. Clear totals.
  - b. Clear the results on the tabulator.
  - c. Insert new printing tapes.
  - d. Shut the machines down.
  - e. Lock and seal the devices.
- 6) Review the seals and locks once again and document the validation. The best practice is to have one person prepare the machine and then have one or two reviewers review the seals and locks.

Any discrepancies noted during the L&A testing must be evaluated in detail to identify the root cause of the problem.

- 1) If the problem is isolated to a specific machine, that machine must be marked and must not be used on Election Day.
- 2) Explain clearly to observers if any discrepancies are noted to ensure that everyone present completely understands the process and conclusion.
- 3) Ensure that there is a mix of all types of ballots used by the jurisdiction for the election.

### Vote Tabulation Software Check

Test the result tabulation software by loading and generating summary reports of all test votes.

- 1) Gather all the media used for vote capture from precinct scanners/hybrid devices and central scanners (including redundant media if applicable) with results, upload to the election management system, generate the consolidated result reports, and compare them to the expected results.
- 2) It is a good practice to use redundant media on Election Day whenever possible. Ensure that the redundant media is also included in testing. Document testing results as you would the official results.

- 3) Check the audit log or cast vote records associated with individual ballots of every unique ballot design to confirm that functionality of each contest and candidate is correct. This can also be done by sending the ballots to adjudication and reviewing them there.

### Election Night Reporting (ENR)

- 1) Generate the ENR files for reporting to the Department of State and publishing to your county's website.
- 2) Ensure that the counting groups on the reports are configured in accordance with the Pennsylvania Election Results Reporting and Ballot Definition Directive.
- 3) Ensure that contests are listed in the correct order, candidate names are spelled correctly, and the report segments are correct on each report type. For example, ensure that a precinct-level report is showing the results from each precinct accurately.
- 4) Test the ENR file submission process and, if the timeline for testing the Department of State ENR does not align with the county L&A testing timeline, safely store the extract files for use during the assigned testing window. Counties must submit multiple files during the ENR file submission testing to ensure that all the candidates' vote totals by reporting group and turnout information are validated on the Department of State website.

### Electronic Poll Books (EPBs)

The county board of elections must test EPBs being used at the polling place as part of the L&A testing.

- 1) Load the required voter data onto the EPBs and ensure that the configuration meets the approval conditions from the Secretary of the Commonwealth.
- 2) Ensure the accuracy of the voter data on each device.
- 3) Test all Election Day check-in activity workflows on all the devices.
- 4) Print any reports as you would do on election night and validate the results.
- 5) Test any check-in activity workflows that would take place on Election Day – e.g., regular check-in, ID verification, absentee/mail-in voter, provisional voter, etc.
- 6) Test the ballot-spoiling procedures if the EPB is being used to track the number of ballots spoiled.

- 7) Test the connectivity between two devices assigned to a polling place and ensure that check-in data is synced between the devices.
- 8) Prepare electronic poll books for Election Day use:
  - a. Clear test data.
  - b. Lock and seal the devices.
- 9) Review the seals and locks once again and document the validation. The best practice is to have one person prepare the machine and then have one or two reviewers review the seals and locks.

### Post-Election Verification Testing for Central Tabulation Equipment

- 1) Central tabulation equipment requires additional post-election verification testing prior to finalizing the election results. At the conclusion of the central tabulation of ballots and prior to the completion of the official canvass, the central scanner(s) must pass the same test using the same test deck(s) used during the pre-election testing.
- 2) To ensure that test deck ballots are not inadvertently intermingled with election ballots, L&A testing ballots must be labeled, bundled together, and kept separately from other election records. Counties can follow the best practice of labeling the L&A ballots with appropriate notation on each ballot while marking contests for testing. For example, write "LA1" on the first L&A ballot in an area not interfering with the barcode.

### Maintaining L&A Testing Results

All documentation, test decks, and any test data including, but not limited to, copies of ballot programming used for required maintenance tests, shall be maintained in secure locked storage in accordance with the requisite records retention schedule. Gather all reports and ballots as you would for official elections and file them along with the test deck used. Note any corrections and explanations and retain and seal all artifacts from pre-election testing.

The Department recommends maintaining a file for the life cycle of each voting machine component, starting with acceptance testing when you purchase the equipment. Document important events that take place during the voting machine life cycle including, but not limited to, acceptance testing, trusted build validation, upgrade acceptance testing, each election L&A testing, and election use. The document must provide a complete history of the voting machine components.

###

Version	Date	Description
1.0		Initial document release
2.0	9.25.2023	Addition of central scan post-election verification testing
3.0	3.07.2024	Removal of functionality deck testing and expanded certification form

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APPENDIX A

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**COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF STATE  
CERTIFICATION OF LOGIC AND ACCURACY TESTING**

County name: \_\_\_\_\_ Election date: \_\_\_\_\_

Number of precincts participating in election: \_\_\_\_\_

Voting system vendor: \_\_\_\_\_

Voting system name and version: \_\_\_\_\_

Primary system configuration:  hand-marked paper ballots  ballot-marking devices

I do hereby certify that \_\_\_\_\_ County has completed pre-election logic and accuracy testing for all its electronic voting system components pursuant to the Directive on Logic and Accuracy Testing on (date) \_\_\_\_\_.

During the test process, a predetermined test deck was prepared, and ballots were marked and tabulated. The results reported by the voting system matched the expected results, and the testing included all equipment to be used for the election, including backup devices.

The testing included the following:

Component	Details	Completed?
<b>Test Deck</b> <ul style="list-style-type: none"> <li>The test deck included absentee, mail-in, Election Day, and provisional ballots (ballot sets) for each precinct (ballot styles).</li> <li>The test deck included ballots produced on all vendor and county BOD printers and BMDs.</li> </ul>	Test pattern used in the test deck: Recommended (unique totals) <input type="checkbox"/> Incremental/Decremental <input type="checkbox"/> Alternating <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>
<b>Notice</b> <ul style="list-style-type: none"> <li>The county board timely notified the chair of each recognized political party.</li> </ul>	Notice was sent to the chairman of each recognized political party on _____	Yes <input type="checkbox"/> No <input type="checkbox"/>
<ul style="list-style-type: none"> <li>The county board timely notified each registered citizens' organization.</li> </ul>	Notice was sent to the chair or presiding officer of each registered citizens' organization on _____	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
<ul style="list-style-type: none"> <li>The county board provided at least 48 hours' notice to the public.</li> </ul>	The county board provided public notice on _____	Yes <input type="checkbox"/> No <input type="checkbox"/>
<b>Ballot-Marking Devices (BMDs) and Backup BMDs</b> <ul style="list-style-type: none"> <li>Each BMD was tested to ensure functionality for each feature.</li> <li>Printed ballots matched candidate selections on screen.</li> <li>Ballots created by BMD were included in the test deck to enable testing of precinct scanners.</li> <li>Hybrid BMDs accurately tabulated results.</li> </ul>	Standard BMDs <input type="checkbox"/> Hybrid BMDs <input type="checkbox"/> # of BMDs to be deployed: _____ # of BMDs tested: _____ # of backup BMDs in reserve: _____ # of Backup BMDs tested: _____	Yes <input type="checkbox"/> No <input type="checkbox"/>

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<p><b><u>Precinct Scanners and Backup Scanners</u></b></p> <ul style="list-style-type: none"> <li>• Test deck was scanned into each precinct scanner that will be deployed.</li> <li>• Ballots were accepted and rejected appropriately.</li> <li>• Ballots produced the expected results.</li> </ul>	<p># of scanners to be deployed: _____</p> <p># of scanners tested: _____</p> <p># of backup scanners in reserve: _____</p> <p># of backup scanners tested: _____</p>	<p>Yes <input type="checkbox"/></p> <p>No <input type="checkbox"/></p> <p>N/A <input type="checkbox"/></p>
<p><b><u>Central Count Scanners and Backup Scanners</u></b></p> <ul style="list-style-type: none"> <li>• Test deck was scanned into each Central Count Scanner that will be used.</li> <li>• Ballots were accepted and rejected appropriately.</li> <li>• Ballots produced the expected results.</li> </ul>	<p># of scanners to be deployed: _____</p> <p># of scanners tested: _____</p> <p># of backup scanners in reserve: _____</p> <p># of backup scanners tested: _____</p>	<p>Yes <input type="checkbox"/></p> <p>No <input type="checkbox"/></p>

Signature of Chief Clerk  
or Authorized Representative

Name of Chief Clerk  
or Authorized Representative

Date

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