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NATIONAL ELECTION DEFENSE COALITION, CITIZENS FOR BETTER ELECTIONS, RICH GARELLA, RACHEL A. MURPHY, CAROLINE LEOPOLD, STEPHEN STRAHS, KATHLEEN BLANFORD, SHARON STRAUSS, ANNE C. HANNA, RAPHAEL Y. RUBIN, ROBERT F. WERNER, SANDRA O'BRIEN-WERNER, THOMAS P. BRUNO, JR., ROGER DREISBACH-WILLIAMS, and JEFF R. FAUBERT, Petitioners, v. KATHY BOOCKVAR, SECRETARY OF THE COMMONWEALTH, Respondent.	COMMONWEALTH COURT OF PENNSYLVANIA ORIGINAL JURISDICTION DOCKET NO.: 674-MD-2019 **PETITIONERS' BRIEF IN SUPPORT OF APPLICATION FOR SPECIAL RELIEF IN THE FORM OF A PRELIMINARY INJUNCTION UNDER PA. R.A.P. 1532**

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INTRODUCTION

The Pennsylvania Constitution guarantees every citizen the right to vote in a free and fair election. The Pennsylvania Election Code protects this Constitutional right by placing strict requirements on every voting system used in the Commonwealth to ensure it will reliably perform its core functions: (1) to enable every eligible voter to cast exactly the votes they intend, (2) to ensure all voters can vote privately and independently, (3) to preserve and safeguard all cast votes, (4) to maintain the secrecy of all votes, and (5) to count all votes accurately. Yet the Commonwealth has chosen to endorse a new voting system, the ExpressVote XL, which fails at every one of these core functions and violates the plain requirements set forth in the law to guarantee them. Moreover, there are continued and credible complaints that the system is neither secure nor reliable, and is capable of being hacked.

Plaintiffs, who are Pennsylvania voters and organizations who represent and work with them, seek a preliminary injunction because if one is not granted, their constitutional rights will be severely impaired by a voting system which undermines their right to cast secret, verifiable, correct votes and which is capable of damaging tabulation errors that misrepresent the will of the voters. These injuries are not speculative—some have already been experienced during the November 5, 2019

general election where the machines were used in Philadelphia and Northampton counties.

Voters in Northampton County in particular suffered major impairments in the right to vote as votes were incorrectly tabulated; voters reported receiving blank print-outs, allowing for no verification of choices; and those with disabilities reported problems using the touch screen and reading the ballot cards. The problems were so bad that the Northampton County Election Commissioners unanimously supported a "vote of no confidence" in the ExpressVote XL.[1]

In a state with the potential to swing a national election, it is simply unacceptable for these problems to persist into the April 2020 primary and beyond. ES&S, the manufacturer of the ExpressVote XL, has been forced to acknowledge that the machines are fraught with issues—some of which they tried to explain away using "human error" as the scape goat, but others they conceded that at this time they do not have an official plan to address. (*See* Grossberg Decl. Ex. 2, Baumart Decl. ¶¶ 67-68.) And despite being aware of the problems involved with the machines, the Commonwealth has refused to take those issues seriously, even arguing that evidence of an informal survey of Philadelphia voters showing that approximately *half* of them had difficulty verifying their vote "does not claim that a single voter

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[1] *See* Grossberg Decl., Ex. 1, Tom Shortell, "No confidence: Northampton County election board 'extremely disappointed' in machines it selected," *The Morning Call* (Dec. 19, 2019).

was actually unable to verify her vote."[2] Plaintiffs here present sworn testimony that proves the opposite: that voters were unable to verify their choices. (Morales Decl. at ¶ 6).

For these reasons, and for those more fully explained below, Plaintiffs request that the Commonwealth be: (1) enjoined from using the ExpressVote XL in any election; (2) required to decertify the ExpressVote XL; and (3) ordered to implement replacement systems that are not in violation of the Pennsylvania Election Code or the Pennsylvania Constitution in order to maintain the integrity of Pennsylvania's electoral system and its democracy as a whole.

STATEMENT OF FACTS

The ExpressVote XL is a polling place electronic voting device. It is one of several voting machines introduced in the last few years commonly referred to as all-in-one hybrid voting machines. They are called "all-in-one" because they combine two tasks more often performed by two separate devices: marking a voter's choices on a piece of paper, and tabulating votes from a piece of paper. In an all-in-one hybrid, these two voting processes are contained in a single device. The process works as follows: A voter inserts a blank ballot card into the machine; makes his or her vote selections on a touchscreen; from those selections the machine then prints

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[2] Defendants' Response in Opposition to Plaintiffs' Motion to Enforce the Settlement Agreement in *Stein v. Boockvar*, E.D. Pa. Civ. No. 2:16-cv-6287 (ECF No. 123 at 31), filed Dec. 12, 2019.

both a set of barcodes purportedly representing the voter's selections onto the ballot card, along with a summary of the voter's selections rendered in text; the voter has the opportunity to examine the printed ballot card through a clear pane to the right of the touchscreen; finally, the voter is then prompted to either "Cast vote" or "Spoil ballot." If the voter chooses "Cast vote", the machine then tabulates the voter's choices *from the barcodes* contained on the top of the ballot card (not the readable text). While the voter has supposedly checked his choices in the readable text portion of the ballot card, it is impossible to know for certain if that matches the information contain in the barcode. Once "cast," the ballot cards pass again past the printer head and are collected in a secured container attached to the machine in the order in which they were cast. (Grossberg Decl. Ex. 3, Verified Voting: ES&S ExpressVote XL; Appel Decl. ¶ 36.)

All computer-based vote-recording and vote-counting machines can be "hacked" to make them cheat. That is, a person or persons can install fraudulent software that deliberately misrecords or miscounts votes, to alter the outcome of elections. (Appel Decl. ¶ 1.) Since any computer or voting system that runs on programmable software can be hacked, no computer—or voting machine—is perfectly secure, and as a practical matter a state or county cannot hope to make its computer systems perfectly secure against sophisticated attackers. (Appel Decl. ¶ 10.)

Even voting machines with no active internet connection need to be "told" before every election, what contests are on the ballot, and which candidates are running in those contests. This "Ballot Definition File" needs to be downloaded into every voting machine before every election. (Appel Decl. ¶¶ 12-13.) It is well understood as a principle of computer security—and it has been demonstrated in practice on real voting machines—that fraudulent vote-stealing software can be made to propagate on removable-media memory cards, which are used on machines like the ExpressVote XL to store the Ballot Definition File. And, of course, insiders at the companies that manufacture voting machines (sometimes abroad), or the external suppliers that supply components of those machines, can deliberately or inadvertently install malicious software. Therefore, even without a connection to the internet, computerized voting machines like the ExpressVote XL are "hackable."

For that reason, most U.S. election jurisdictions and over 70% of Pennsylvania counties use a hand-marked paper ballot system: voters mark paper ballots by hand and an optical scanner is used to count the votes on the paper ballots. This is considered the most secure system for voting because voters can verify directly the correctness of their votes and, if cheating is suspected, the paper ballots provide a durable record which can be recounted by human inspection, always yielding a tally of the true voter intent. (*Id.* at ¶ 14.)

Some voters cannot mark a paper ballot by hand, because of a visual impairment or motor disability. Since 2002, the federal Help America Vote Act requires every polling place to have an accessible voting device. In polling places that use hand-marked optical-scan ballots, a typical accommodation used is a Ballot-Marking Device (BMD). This is a computer with a touchscreen and with alternate input methods (such as an audio interface for blind voters or a sip-and-puff interface for voters with severe motor disabilities) that allow voters to indicate their votes; the BMD then prints a ballot that may be counted by an optical scanner. (*Id.* at ¶¶ 15-17.)

The ExpressVote XL, as noted above, is an "all-in-one" machine that combines the features of both a BMD and a tabulator. Like any computer-based voting machine, BMDs can be "hacked," that is, their vote-marking software can be replaced by fraudulent vote-stealing software that steals votes by recording different votes on the paper ballot than what the voter indicated on the touchscreen. (Appel Decl. ¶ 22.) BMDs (and all-in-one machines such as the ExpressVote XL) are insecure because (1) most voters do not inspect the printed-out paper ballot carefully enough to notice whether the BMD has printed the same vote that they indicated on the touchscreen, and (2) even if some voters do notice, at most they can correct their own votes—they cannot prove the machine has been cheating—so their neighbors who did not carefully inspect their printed-out paper ballots will still have their votes

stolen, and election outcomes can be successfully altered by hackers. (Appel Decl. ¶ 23.)[3]

If a voter does notice that the paper ballot has a different candidate marked than they intended to vote for, the voter is supposed to inform a pollworker, who is then supposed to void that ballot and allow the voter to mark a fresh ballot. (Appel Decl. ¶ 29.) While in this case the voter has corrected the error, studies have shown that most voters do not spend the requisite time inspecting their ballot necessary to catch and correct errors. (Appel Decl. ¶¶ 24-28.) Because most voters won't notice the error, if a machine has been hacked to alter 5% of the votes but succeeds in altering only 4.5% of the votes because a very small number of voters notice and correct their ballots, the reported outcome is still incorrect, and the paper ballot is not a failsafe because the ballots do not necessarily reflect voter intent. (Appel Decl. ¶ 29.)

Even in circumstances where a voter does catch the error, the voter may not be able to prove that the mistake has been corrected – by the time the paper ballot is printed and tallied, the software, which has been hacked, could be programmed to

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[3] *See also* Bernhard et al., "Can Voters Detect Malicious Manipulation of Ballot Marking Devices?" University of Michigan study available at https://jhalderm.com/pub/papers/bmd-verifiability-sp20.pdf (attached hereto at Grossberg Decl., Ex. 4 and discussed at Appel Decl. ¶ 26); Appel, DeMillo and Stark, "Ballot-Marking Devices (BMDs) Cannot Assure the Will of Voters," April 21, 2019 (available at https://ssrn.com/abstract=3375755), attached hereto at Grossberg Decl., Ex. 5, and discussed at Appel Decl. ¶ 28.)

show the "correct vote" on the screen, while keeping the "incorrect vote" hidden to the naked eye in the barcode read by the machine. (Appel Decl. ¶ 29.)

The ExpressVote XL is subject to the same security vulnerability as any BMD: if its computer is hacked to steal some fraction of the votes in a particular contest, and to deliberately mismark the paper ballot, then most voters will not notice. (Grossberg Decl., Ex. 4, Bernhard et al. (in mock polling place study of BMDs, only 40% of participants reviewed their printed ballots at all, only 6.6% reported the error to a poll worker, and only 7.8% correctly identified the error in an exit survey).) Those voters who do notice will have recourse limited to correcting only their own votes, and therefore the BMD succeeds in stealing the vast majority of votes that it attempts to steal. (Appel Decl. ¶ 37.) But the ExpressVote XL also exhibits additional problems that are *not* shared by all BMDs, or even all all-in-one machines. The ExpressVote XL is designed so that the ballot card passes under the print head again and *after* it has already been inspected by the voter while on the way to ballot box. (Appel Decl. ¶ 42.) At this point, hacked software can be programmed to record different votes. (Appel Decl. ¶ 43.) This is a severe security flaw: the ExpressVote XL's hardware is designed so that, if it malfunctions or if rogue software is installed, it can alter or print additional votes on the ballot, after the voter approves the ballot for deposit into the ballot box. Even those voters who inspect their ballot and notice nothing amiss cannot ensure their vote is correctly

marked. And election officials auditing or recounting paper ballots cannot be sure they are seeing the same votes that the voter saw. (*Id.* at ¶ 44.) Put simply, there is no way to ensure that a voter's vote is securely cast and vote totals reflect the will of the electorate.

All of the above is in violation of Pennsylvania Election Code, Section 1101-A, 25 P.S. § 3031.1, which was written to ensure that a voter's vote remains secure and that every voting machine provide a permanent physical record of all cast votes. The ExpressVote XL does neither. While the insecurity of the voting machine is its most troubling feature, the machine violates many other sections of the Pennsylvania Election Code and the Pennsylvania Constitution, including Sections 1107-A and 1111-A of the Pennsylvania Election Code, ensuring secrecy in voting and accessibility for those with disabilities.

Based on these concerns, in July 2019, before the machines were used in any election, some of the parties to this suit along with other concerned citizens (collectively, the "Petitioners") petitioned the Secretary of the Commonwealth of Pennsylvania ("the Secretary") to reconsider the certification of the machines. (Grossberg Decl. Ex. 6, Reexamination Request Petition ("Petition").) However, the Secretary gave little weight to their concerns and dismissed the petition in a largely perfunctory manner. (Grossberg Decl. Ex. 7, *Report Concerning the Reexamination*

Results of Election Systems and Software ExpressVote XL, issued by Secretary Boockvar on September 3, 2019 ("Reexamination Report").

Meanwhile, three Pennsylvania counties—Philadelphia County, Northampton County, and Cumberland County—relied on the Secretary's certification and spent millions of dollars buying these new machines, which had never before been used or tested in an actual election in Pennsylvania. (Grossberg Decl. Ex. 8, Philadelphia County Contract with ES&S for purchase of ExpressVote XL.)

Many of the concerns the Petitioners raised came to fruition when the machines were debuted in Philadelphia and Northampton in the November 5, 2019 general election. Several major issues with the ExpressVote XL were reported on and after Election Day. The ExpressVote XL machine incorrectly tabulated votes in numerous contests, and voters reported problems using the touchscreens and difficulty reading the machine-printed ballots to confirm they were correct. (Bruno Decl. ¶ 6; Grossberg Decl. Ex. 9, Emily Previti, "Northampton officials unanimously vote 'no confidence' in ExpressVote XL voting machine," *PA Post*, Dec. 20, 2019 (statement of Northampton County Election Commissioner Kathy Fox regarding touchscreen problems); Grossberg Decl., Ex. 10, *In re 2019 Municipal Election*, Nov. 5, 2019, at 6:3-23 (statement of Judge McFadden, in hearing challenge brought by two judicial retention candidates as to functioning of ExpressVote XL machines

during general election, that the Court "personally experienced" problems using the ExpressVote XL to vote).) The process of ballot verification in Northampton and Philadelphia counties was difficult for many voters, with voters reporting the text being too small, faint, and/or hard to read. (Morales Decl. ¶ 6; Hanna Decl. ¶¶ 6-10.)

In a contest for County Judge in Northampton County, the ExpressVote XL tallied votes and produced vote total reports that asserted a popular Democratic judicial candidate received approximately zero votes after polls closed on Election Night.[4] (Bruno Decl. ¶¶ 8-11.) This was impossible given that the candidate's campaign manager and her parents voted for him and thus knew that the count was incorrect. (Bruno Decl. ¶ 10). Election officials conducted a recount of the ballot summary cards produced by the same faulty ExpressVote XLs, from election night until the following morning, using several borrowed optical scanners of different models than the ExpressVote XL. For the candidate who received zero votes by the ExpressVoteXL tally, the recount yielded a total of 26,142 votes, resulting in him being declared the winner.

These were not the only problems reported: there were also widespread reports of overly-sensitive touch screens which made it impossible for voters to

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[4] Election-night news reported up to 164 votes, perhaps due to some hand-counted absentee ballots. *See* Nick Corasaniti, "A Pennsylvania County's Election Day Nightmare Underscores Voting Machine Concerns," *The New York Times* (Nov. 30, 2019), available at https://www.nytimes.com/2019/11/30/us/politics/pennsylvania-voting-machines.html (last visited January 9, 2020).

select their true choices. (Munsey Decl. ¶ 9; Grossberg Decl., Ex. 11, Riley Yates and Tom Shortell, "The 'new machines are garbage.' Northampton County fielded dozens of elections complaints, newly released records show," *The Morning Call* (Dec. 28, 2019) (summarizing Election Day voter complaints made to Northampton County election officials); Grossberg Decl. Ex. 12, *In re 2019 Municipal Election*, Nov. 5, 2019, 6:18-7:21 (transcript of hearing before Judge Baratta concerning Judge Koury and Judge Dally's complaint that ExpressVote XL machines were only permitting voters to vote against their retention and not for)). Moreover, despite the repeated promise by the Secretary that the machines would work if pollworkers followed explicit instructions (Grossberg Decl. Ex. 7, Reexamination Report at 10), there were reports that pollworkers flagrantly violated procedure causing violations of voter secrecy, among other problems. (Garella Decl. ¶ 10, Munsey Decl. ¶ 14).

Certain that these problems will continue if the ExpressVote XL remains in use, Plaintiffs now turn to this Court for relief in the form of a preliminary injunction, without which immediate and irreparable harm is sure to affect the Pennsylvania voter population.

ARGUMENT

Pursuant to Pennsylvania Rule of Appellate Procedure 1532(a), this Court may order special relief, including a preliminary injunction or special injunction, "in the interest of justice and consistent with the usages and principles of law." The

standard for obtaining a preliminary injunction under Rule 1532(a) is the same as that for obtaining a preliminary injunction pursuant to the Pennsylvania Rules of Civil Procedure. *See Commonwealth ex rel. Pappert v. Coy*, 860 A.2d 1201, 1204 (Pa. Commw. Ct. 2004) (citing *Shenango Valley Ostepathic Hosp. v. Dep't of Health*, 451 A.2d 434, 441 (Pa. 1982)). The purpose of a preliminary injunction is to "put and keep matters in the position in which they were before the improper conduct of the defendant commenced." *Hill v. Dep't of Corr*., 992 A.2d 933, 936 (Pa. Commw. Ct. 2010) (quoting *Little Britain Twp. Appeal*, 651 A.2d 606, 611 (Pa. Commw. Ct. 1994)).

A preliminary injunction is warranted where: (1) relief is necessary to prevent immediate and irreparable harm; (2) greater injury will occur from refusing to grant the injunction than from granting it; (3) the injunction will restore the parties to the status quo as it existed before the alleged wrongful conduct; (4) the petitioner is likely to prevail on the merits; (5) the injunction is reasonably suited to abate the offending activity; and (6) the public interest will not be harmed if the injunction is granted. *Brayman Const. Corp. v. Com., Dep't of Transp*., 13 A.3d 925, 935 (Pa. 2011); *see also Summit Towne Ctr., Inc. v. Shoe Show of Rocky Mount, Inc.*, 828 A.2d 995, 1001 (Pa. 2003). All of those elements are present here. The Court should grant the requested preliminary injunctive relief in order to prevent irreparable harm to voter confidence in the fairness of our democratic elections.

Forcing Plaintiffs to cast votes using BMD-generated barcode ballots, which are unreadable to the human eye, imposes an unconstitutional burden given the unverifiable nature of such a system and the persistent threats of hacking and vote manipulation in today's environment. The Commonwealth cannot show any compelling state interest in the use of the ExpressVote XL to justify this severe burden, particularly when there are numerous cost-efficient alternatives available. In fact, as most of the counties in the Commonwealth have successfully opted to use paper ballots primarily marked by hand (with BMDs available to voters who require such a device for accessibility reasons), they can offer no need—or reason—at all for using computer-generated, unreadable barcodes to tabulate votes. Moreover, their use undermines important state interests in preventing fraud and promoting voter confidence.

I. A PRELIMINARY INJUNCTION IS NECESSARY TO PREVENT IMMEDIATE AND IRREPARABLE HARM.

The use of the ExpressVote XL threatens to prevent Petitioners from exercising their right to vote. The constitutional right at stake in this case is of the utmost importance: the right to vote "is pervasive of other basic civil and political rights, and is the bedrock of our free political system." *Bergdoll v. Kane*, 557 Pa. 72, 85, 731 A.2d 1261, 1268-69 (1999) *(quoting Moore v. Shanahan*, 486 P.2d 506, 511 (Kan. 1971)). The right to vote is enshrined in the Pennsylvania Constitution: Article 1, Section 5 declares that "Elections shall be free and equal; and no power, civil or

military, shall at any time interfere to prevent the free exercise of the right of suffrage." Article VII, Section 4 guarantees that "All elections by the citizens shall be by ballot or by such other method as may be prescribed by law: Provided, that secrecy in voting be preserved."

It is well recognized that threats to a fundamental constitutional right constitute "immediate" and "irreparable" harm, warranting a preliminary injunction. Thus, in *Pennsylvania State Education Association ex rel. Wilson v. Commonwealth., Department of Community and Economic Development, Office of Open Records*, 981 A.2d 383, 386 (Pa. Commonw. Ct. 2009), the court granted a preliminary injunction to prevent public disclosure of employees' home addresses, in order to protect the employees' constitutionally guaranteed right to privacy. Here, where the "bedrock" right to vote is at issue, the potential harm is no less immediate and irreparable. *See League of Women Voters of N.C. v. North Carolina*, 769 F.3d 224, 247 (4th Cir. 2014) (impairment of right to vote cannot be undone or adequately redressed once an election occurs); *Curling v. Kemp*, 334 F. Supp. 3d 1303, 1325-26 (N.D. Ga. 2018) (state use of an election system threatening that voters' votes will not be counted accurately or equally in an upcoming election constitutes "real risk of suffering irreparable injury without court intervention.").

The Secretary's certification of the ExpressVote XL machine and their subsequent use in Pennsylvania elections has caused and will continue to cause

violations of and interference with Plaintiffs' suffrage rights by making it possible or probable that a significant number of votes will not be counted accurately, or at all.

The Pennsylvania Constitution affords every voter in this state the right to free and fair elections and the opportunity to cast his or her ballot without burden and within the confines of secrecy. *See* Pennsylvania Constitution Article I §§ 5 and 26, and Article VII § 4. The Commonwealth should be just as concerned about the issues with the ExpressVote XL as Plaintiffs. Security, secrecy and accuracy of elections are not partisan or gratuitous goals but instead necessities of an election system that sparks confidence in the electorate. The Commonwealth's interest in minimizing the short-term inconveniences that could follow decertification pales before Plaintiffs' and the public interest in ensuring free and fair elections.

The problems that were caused and which are likely to be caused by the ExpressVote XL machines create the risk that persons for whom the majority of voters have not cast their ballots will be declared the election winners and will take office, in contravention of the very essence of our democracy—and in 2020, the problems with these machines in Pennsylvania will resonate on a national level.

Plaintiffs' equal protection rights under the Pennsylvania Constitution are likewise at risk because, while they are compelled to vote in counties (Philadelphia Northampton, and Cumberland) using the ExpressVote XL, other registered voters

in Pennsylvania may vote in precincts or counties using voting systems that do not suffer from the defects identified by Plaintiffs in their Petition for Review. Plaintiffs are likely to experience Election Day impairments of their right to vote, and less likely to have their votes accurately marked and counted, than residents of those other counties. *See* Article 1, Section 26 of the Constitution of Pennsylvania ("Neither the Commonwealth nor any political subdivision thereof shall deny to any person the enjoyment of any civil right, nor discriminate against any person in the exercise of any civil right."). The Secretary's certification for use in Pennsylvania elections of the ExpressVote XL Voting Machines violates Article I, §§ 5 and 26, and Article VII, § 4 of the Pennsylvania Constitution.

While the ExpressVote XL is set to be used again for the April 2020 primary elections and November 2020 general elections, the potential harm is even more immediate. In January 2020, ES&S EVS 6.1.0.0, will undergo certification review in Pennsylvania.[5] ES&S EVS 6.1.0.0 is a suite of products that includes voting machines, hardware, and software. The older version of the suite, ES&S EVS 6.0.2.1, originally contained the ExpressVote XL, and the new version still includes

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[5] See Emily Previti, "Human Error and Sensitive Touchscreens Blamed for Northampton Co. Election Problems, *PA Post*, https://papost.org/2019/12/12/human-error-and-sensitive-touchscreens-blamed-for-northampton-co-election-problems/ (last visited Dec. 27, 2019) (attached hereto at Grossberg Decl. Ex. 13).

ExpressVote XL. This means that the ExpressVote XL could be recertified by the Commonwealth within weeks.

Moreover, the State Representative for Philadelphia's 190th District, Movita Johnson-Harrell, resigned from office on December 13, 2019. A special election to fill the vacancy will be held in West Philadelphia on February 25, 2020.[6] Absent injunctive relief, Philadelphia County will conduct that election using the ExpressVote XL.

While those are concrete examples of the immediate harm that these counties face should the ExpressVote XL be allowed to continue to be used, the real harm is far more detrimental—it cuts to the trust that the entire electorate has in the machines and our voting system as a whole.

On December 19, 2019, Northampton County Election Commissioners unanimously supported a "vote of no confidence" in the ExpressVote XL after vendor Election Security & Software (ES&S) presented findings from their investigation into tabulation errors and other problems during the November 5, 2019 general election.[7] While ES&S representatives insisted that the problems that

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[6] See John Cole, "HD190: Special Election Set for February 25," *Politics PA*, https://www.politicspa.com/hd190-special-election-set-for-february-25/93123/ (last visited Dec. 27, 2019) (attached hereto at Grossberg Decl. Ex. 14).

[7] See Emily Previti, "Northampton Officials Unanimously Vote 'No Confidence' in ExpressVote XL Voting Machine," *PA Post*, available at https://papost.org/2019/12/20/northampton-officials-unanimously-vote-no-confidence-in-expressvote-xl-voting-machine/ (last visited Dec. 27, 2019) (attached hereto at Grossberg Decl. Ex. 9).

Northampton County experienced were the product of human error, the Election Commissioners were not convinced that those issues could be fixed before the next election, particularly since it is ES&S itself that made the machine, stands to profit from its use, and is in charge of giving the machine, a "clean bill of health."[8]

There is no way to repair voters' trust in the machines, and if voters do not trust the machines, they cannot trust the outcome of the election. If that is to happen, the entire state democracy stands to crumble under the weight of suspicion, distrust and frustration. The November 5, 2019 election in Northampton and Philadelphia counties shows that multiple individuals struggled to read the paper printout, and some reported that the ballot print out appeared blank.[9]

- A Philadelphia voter "found the ballot card very difficult to view" (Hanna Decl., ¶ 6); the card "was hard to read because the font on the ballot card was very small and very difficult to read in the dim light" (*id.* at ¶ 7); "[t]he text was very dense and poorly formatted" and difficult to verify "because the format of the vote summary was so different from the format of the on-screen ballot" (*id.* at ¶¶ 8-9);

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[8] *See* Previti, *supra* n.5.

[9] *See* "Election Concerns Ahead of 2020," video available at https://www.msnbc.com/hardball/watch/questions-about-election-security-ahead-of-2020-75856453665 (last visited January 4, 2020).

- Northampton voter stated, "I had difficulty reading my printed ballot. When my ballot card was printed and shown in the glass window, the card appeared blank. I tried but was unable to see any printing on the card. I cast the ballot anyway, without being confident my votes were recorded correctly." (Morales Decl. ¶¶ 6-7.)

- A Northampton County judge stated from the bench that he "wasn't aware that [he] was supposed to review the paper ballot" and "didn't check the paper ballot against [his] vote" because he "assumed it was going to record it correctly." (Grossberg Decl. Ex. 12, *In re 2019 Municipal Election* (Nov. 5, 2019) at 48:5-24 (statement of Judge Baratta).)

Additionally, the difficulty of voters in attempting to read and verify their ballots led to unusually lengthy lines at the polls, causing some voters to give up on voting at all and leaving their polling place in frustration. (Munsey Decl. ¶ 8.) It is clear that if Pennsylvania allows the ExpressVote XL to continue to be used, the harm will be immediate and consequential for the entire election system.

Accordingly, a preliminary injunction is necessary to prevent immediate and irreparable harm.

II. PETITIONERS ARE LIKELY TO PREVAIL ON THE MERITS.

A party seeking an injunction is not required to "establish his or her claim absolutely," but need only "demonstrate that substantial legal questions must be resolved to determine the rights of the parties." *Costa v. Cortes,* 143 A.3d 430, 437 (Pa. Commw. Ct. 2016) (quoting *SEIU Healthcare Pa. v. Commonwealth*, 104 A.3d 495, 506 (Pa. 2014)); *see also, e.g., Ambrogi v. Reber*, 932 A.2d 969, 976 (Pa. Super. Ct. 2007) ("[T]he party seeking an injunction is not required to prove that he will prevail on his theory of liability, but only that there are substantial legal questions that the trial court must resolve to determine the rights of the parties."). Here, Petitioners have a substantial likelihood of success on the merits because the ExpressVote XL violates the principles of security, privacy, accessibility, and ballot form found in the Pennsylvania Election Code, as outlined below. Because of these violations, the ExpressVote XL also cannot provide equal rights to suffrage or guarantee a secret ballot and is thus in violation of the Pennsylvania Constitution. The Supreme Court of Pennsylvania has recognized that constitutional challenges to legislative enactments may "raise important questions that are deserving of serious consideration and resolution" and therefore warrant a preliminary injunction. *Fischer v. Dep't of Pub. Welfare*, 439 A.2d 1172, 1175 (Pa. 1982).

A.   The ExpressVote XL Does Not Provide Acceptable Ballot Security Measures in violation of the Pennsylvania Election Code, Section 1107-A, 25 P.S. § 3031.7(12)

1.   Insecure paper path

The ExpressVote XL has a single paper path which exposes a ballot card to the same internal printer which printed the ballot prior to impoundment. (Appel Decl. at ¶ 42.) This hardware configuration only exists in certain all-in-one hybrid voting machines. After the ExpressVote XL prints a ballot card with a voter's selections, the ballot card travels along a single paper path, moving toward the voter. The ballot card first moves to a scanner where it pauses as the barcodes on the ballot card are read. Then the ballot card continues along the path into a metal display box with a transparent top so that the voter can see it. (Appel Decl. at ¶ 40.) Once the voter chooses to cast the ballot card, the paper travels along the same paper path in reverse, this time moving away from the voter. It passes the scanner, then passes the printer, and is then impounded in the ballot container. (Appel Decl. at ¶ 42.) The Secretary's "Report Concerning Reexamination" confirms that the ballot card travels past the print head a second time prior to impoundment. *See* Grossberg Decl. Ex. 7, Reexamination Report at 7; *see also* Grossberg Decl. Ex. 2, Baumert Decl. at ¶¶ 50-59 (declaration of ES&S Principal Product Manager for the ExpressVote XL voting machine describing the Paper Path Module and confirming that the paper passes the print head "after verification" on its way to the ballot container). As

described and identified by Baumert, the ExpressVote XL's paper path module looks like this:

Paper Path Module (PPM)

EXPRESSVOTE XL

Scan Head (aka CIS)

Print Head (in raised position unless printing)

Card Park Position

Card Insertion point
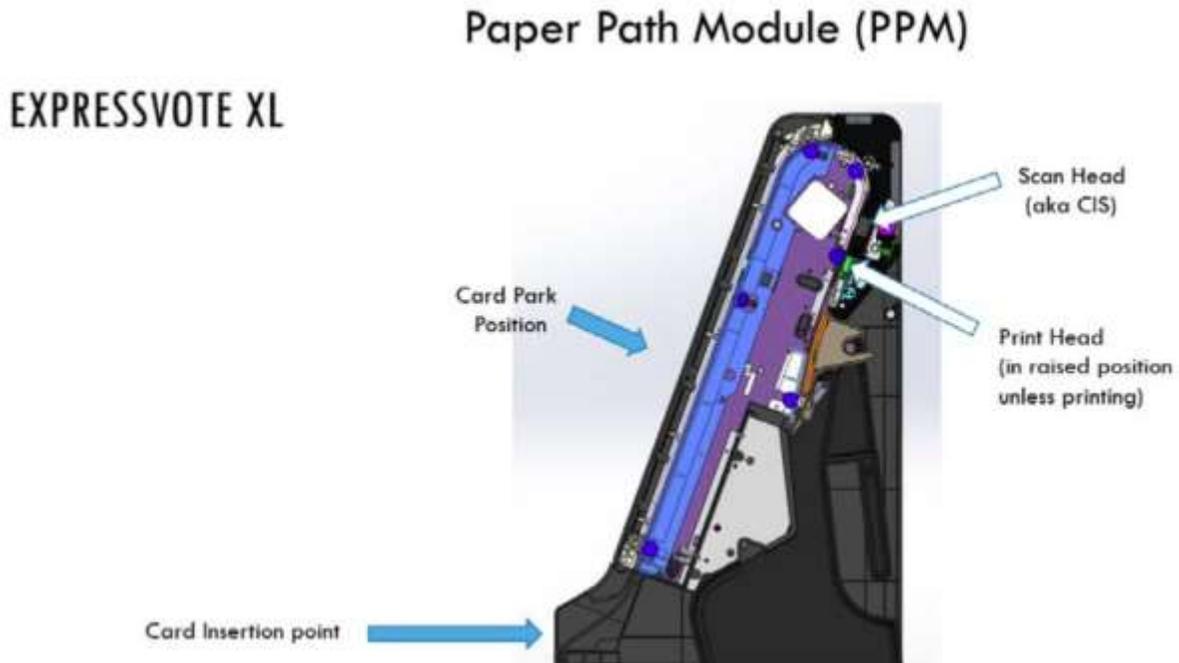
(Grossberg Decl. Ex. 2, Baumert Decl. at ¶ 53.)

The printer is controlled by software. The print head is raised and lowered by software. The printer outputs data sent to it by software. Aside from software-controlled hardware, the ExpressVote XL does not possess additional hardware intended to physically restrict the movement of the print head or to prevent it from contacting the ballot card at a time when it should not be in physical proximity to the card. The software controlling the printer could be modified, replaced, or circumvented by an attacker who is able to get malicious code onto the voting machine. (Appel Decl. at ¶ 43.) The hardware inside the ExpressVote XL that marks

the ballot card and the hardware that scans the ballot card are connected by the same software. This enables a hacked machine's software to "know" what was printed on the ballot card early in the process and to make use of that information later.

For example, if a voter selected no candidate in one contest, a hacked machine would know that there was an opportunity to add a vote in that contest; it could leave a blank space on the ballot card for the verification process, and then print a vote in the contest as the paper travels into the ballot container. (Appel Decl. at ¶ 43.) The software would also know if a certain candidate had been selected by the voter and could target only those ballots while leaving others alone. Intentional malfeasance is not necessary. The printer on a malfunctioning voting machine could modify or deface a ballot card prior to impoundment, and election officials auditing or recounting paper ballots cannot be sure that they are seeing the same votes that the voter saw. (Appel Decl. at ¶ 44.)

The ExpressVote XL's inability to create and preserve reliable paper evidence therefore threatens fundamental election security. The ExpressVote XL can change not only the software-managed totals, but also the physical evidence that would show if those totals are correct or not. In this way, ballots altered by tampering could be used as proof that totals were not changed, even when they were. If ballots are altered prior to impoundment, the altered ballots would be the official ballots. Therefore, the ExpressVote XL does not produce a trustworthy and independent

physical record of the voter's intended vote that can be used to audit, or double check, the election results to ensure that they accurately reflect voters' intent. Additionally, this flaw in the ExpressVote XL violates Section 1107-A of the Election Code, 25 P.S. § 3031.7(12), which requires that a voting system "[p]rovide[] acceptable ballot security procedures and impoundment of ballots to prevent tampering with or substitution of any ballots or ballot cards."

No voter using an ExpressVote XL machine can ensure that the paper ballot that they review before officially casting their vote is the actual record being tabulated or impounded. (Appel Decl. at ¶¶ 29-33.) This is particularly true since the barcode is read by the machine *prior* to the voter reviewing and officially casting his or her ballot. (Grossberg Decl. Ex. 15, Halderman Decl. ¶ 7.) Because there is no permanent, trustworthy, and independent physical record that can be used to audit election results generated by the ExpressVote XL, there can be no assurance that either the Plaintiffs' votes or the votes of any other Pennsylvania voter in the affected counties have been accurately cast and counted in accordance with voter intent, or that the election results are accurate.

The ExpressVote XL indeed produces a piece of paper, which can be counted and recounted as many times as desired. However, this piece of paper is not guaranteed to be a permanent physical record of *the voter's vote*, but rather only a record of the machine's own output—that is, data from an unreadable barcode stored

in the machine that the voter cannot verify to ensure it matches readable text of a voter's choices.

The ExpressVote XL defeats auditability because an auditor cannot consistently determine whether the machines captured the voters' intent: a human auditor cannot read the barcode, and most voters as an empirical matter do not or cannot verify the written summary accompanying the barcode under election conditions. (Grossberg Decl. Ex. 15, Halderman Decl. ¶¶ 13-15.)

There is no guarantee that the barcode read by scanners to count the votes actually matches the text summary provided elsewhere on the ballot, whether due to miscoding, firmware malfunction, hacking, or other error. Thus, a barcode-ballot-based election system cannot produce an auditable record. Even the Blue Ribbon Commission on Pennsylvania's Election Security recommends against barcodes since they are non-readable to the voter.[10] The Pennsylvania Election Code emphasizes the use of ballot marks that can be read and verified by both a voter and auditor, such as a "check mark" or "x." *See* Pennsylvania Election Code, § 1112-A, 25 P.S. § 3031.12(b)(2)-(4). This is preferred over a non-readable bar code because it can easily be discerned by the human eye and because it ensures that when voting,

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[10] *See* Grossberg Decl. Ex. 16, The Blue Ribbon Commission on Pennsylvania's Election Security: Study and Recommendations, at nn. 49 and 53, available at https://www.cyber.pitt.edu/sites/default/files/FINAL%20FULL%20PittCyber_PAs_Election_Security_Report.pdf.

an individual will put the marking next to his specified candidate of choice, cutting down on accidental errors, which would not be so easily picked up in the bar code context.

The experience in Northampton County in the November 2019 election does not demonstrate that the ExpressVote XL's results are, in fact, auditable. A recount using reliable optical scanners can address concerns regarding the ExpressVote XL's ballot *tabulation* function. But an optical scanner recount cannot address concerns regarding the ExpressVote XL's ballot *marking* function—whether the machine-printed ballot cards in fact reflected what the voter selected on the electronic touchscreen. Put another way, Northampton County was able, using borrowed optical scanners, to ascertain that the ExpressVote XL printed 26,142 ballot cards indicating a vote for a particular candidate. But no optical scanner recount could ascertain whether 26,142 voters in fact chose that candidate on the touchscreen.

While the Election Code does not specifically contemplate all-in-one hybrid voting machines with the ability to both mark ballots and tabulate votes, it is common sense that a voting machine should not have the ability to change votes after the voter has confirmed and cast her ballot. The same reasoning is evident and explicitly stated in Pennsylvania Election Code Section 1222, 25 P.S. § 3062(a), "No person while handling the ballots shall have in his hand any pencil, pen, stamp or other means of marking or spoiling any ballot." Acceptable ballot security

procedures to prevent tampering must include a similar restriction on any *machine* handling the ballots as it does on any *person* handling the ballots. The design of the ExpressVote XL machine, with the paper passing past the print head after voter verification on its way to the ballot container, violates this principle.

2. Insecure Administrator Access Panel

The ExpressVote XL has an administrator access panel on the top of the machine, above the touchscreen, directly in the line of sight of voters. The ExpressVote XL's administrator access panel is readily available to voters while they are inside the private voting booth curtain. No other voting machine certified for use in the Commonwealth has an access panel available to voters while they are hidden from the view of poll workers.

The access panel contains: (1) the on/off switch, (2) a "Supervisor Mode" switch which grants access to configuration and administrative features, (3) three USB ports, one occupied by the USB drive containing the election results and two which are open, (4) a CFLASH card containing the voting machine software is underneath a panel secured by screws.[11]

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[11] CFLASH (or CompactFlash) is a solid-state mass storage device that can be erased and reprogrammed and is used in many portable electronic devices.
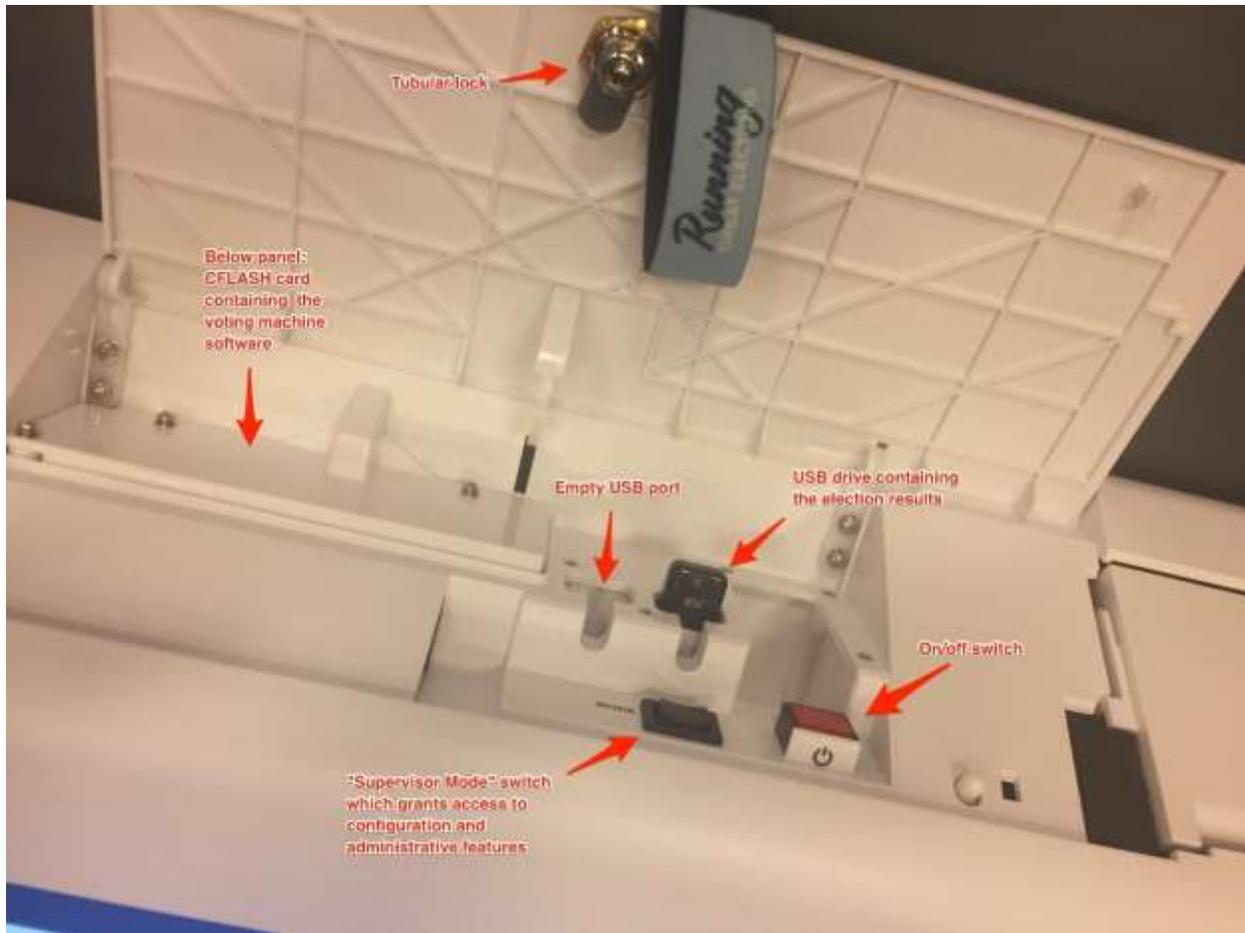
The access panel is ostensibly protected by a lock; however, the lock can be picked

quickly using tools which are easily obtained. The locks on every ExpressVote XL

in a given county are identically keyed.[12] A stolen or copied key from one polling

place could thus be used in every other district for all future elections. This security

flaw renders the machine extraordinarily susceptible to malicious interference or

hacking.

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[12] *See* https://youtu.be/5x3ybL4dZV0?t=180 (video of Philadelphia poll worker training held on November 3, 2019) ("The keys are universal. Don't freak out if you lose them. Your neighbor has the same key. The password will also be cityside.").

During the election on November 5, 2019 in Philadelphia, voters took photos of unlocked panels in at least three polling places. Among them was Raphael Rubin, a Philadelphia voter who observed that the access panel of the ExpressVote XL machine he was using to vote on November 5, 2019 was "wide open" and that "a storage device inserted in the machine was visible and physically accessible to me or any other voter who entered the booth." (Rubin Decl. ¶ 7.) In fact, the machine Rubin voted on appeared to have an object intentionally placed in it to prevent the access panel door from closing. (Rubin Decl. at ¶ 8.) Photographs taken by Rubin while voting show the open administrator access panel at the top of the machine:
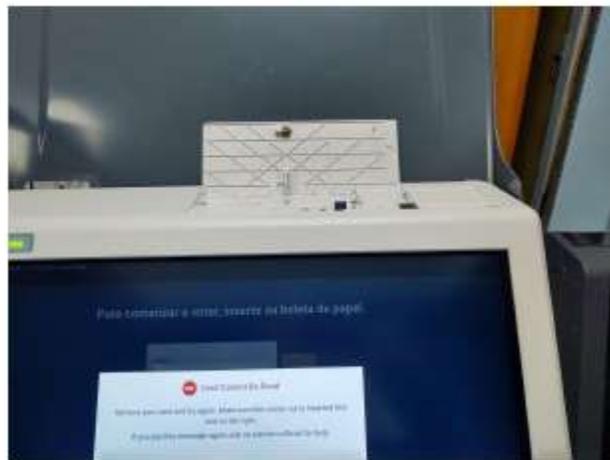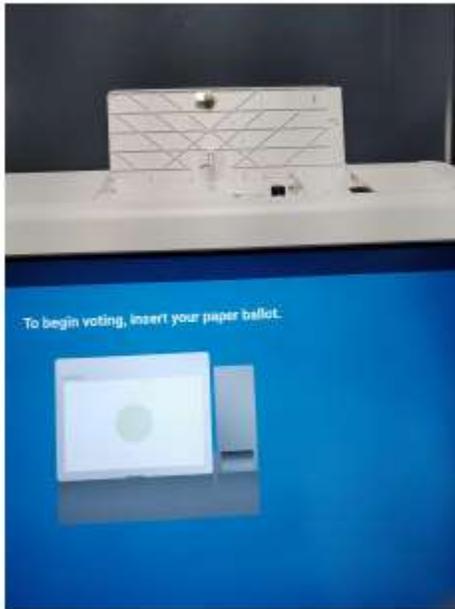
(Rubin Decl. at ¶ 10.)

A voting machine which provides voters with access to core system hardware and software while hidden from view does not provide acceptable ballot security procedures to prevent tampering, and violates the Pennsylvania Election Code.

3. Insecure and Inaccurate Testing Feature

The ExpressVote XL has a feature called "Test Deck" which is designed to provide a means for an election official to test each machine that will be used for voting prior to the election. Put simply, it is like casting a series of sample ballots on the machine in order to test that the machine is working properly and the results match the known number of votes cast.

The Test Deck feature has two major flaws. First, perhaps most worrisome, it demonstrates a design flaw that makes the machine uniquely susceptible to hacking. Second, as the experience in Northampton County showed, it is not a sufficient or reliable way to test a particular ExpressVote XL machine's accuracy.

Unlike other voting machines, where the ballot marking and tabulator functions are in separate pieces of hardware, the ExpressVote XL was designed with both functions housed in the same piece of hardware. (Appel Decl. ¶ 21; Grossberg Decl. Ex. 3.) The Test Deck feature indicates that the two functions can communicate directly, because it can create and submit completely digital ballots

for tabulation without using a paper record.[13] And if the machine can do this in Test Deck mode, then it has the capability to do it in regular operations. For example, if a machine is hacked, it has the potential to "read" the election results while in progress and then decide whether to add votes to a candidate or leave as is, depending on the hacker's desired outcome.

Pre-election testing with the Test Deck feature cannot detect these types of compromise. After using the Test Deck feature, a pollworker can view the poll tape to test the accuracy of the machine. If the results on the tape are wrong, it is impossible to determine whether the test software malfunctioned or if the test votes were not tabulated with absolute accuracy. Without knowing which, it is impossible to assert that the machine is capable of accuracy, even after running the Pennsylvania-mandated Logic and Accuracy Testing. (Grossberg Decl. Ex. 18, Pennsylvania Secretary of State's Original Certification Report for ES&S 6.0.2.1, including "Conditions for Certification" for ExpressVote XL ("Original Certification Report"), at 38).

Matt Munsey observed the "logic and accuracy" testing in Northampton County on October 9, 2019, in which a tester used the Test Deck software to cast

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[13] *See* Grossberg Decl. Ex. 17, EAC Modification Test Plan at 11, 33 (stating that ES&S EVA 6.0.4.0 modifications included "the ability to automatically print a test deck from tabulation mode for the ExpressVote XL" and that this feature "provides a means for the election official to test the election on each machine that will be used for voting"), available at https://www.eac.gov/file.aspx?A=KGM1RUIEXrLHWrHymc7h25l50ojPE3yszVeZTrLBiX4%3 D (last visited Dec. 27, 2019).

approximately 20 paperless ballots, then printed out a tape with the vote tabulation totals. (Munsey Decl. at ¶ 5.) Although 20 total ballots had been simulated, the summary tape showed mostly undervotes cast for every contest. (Munsey Decl. at ¶ 6 and Exhibit A, poll tape.) A voting machine that can create electronic ballots for tabulation without creating a permanent physical record does not reliably provide for a permanent physical record of each vote cast and does not provide acceptable ballot security procedures to prevent tampering.

B.   **The ExpressVote XL Fails to Provide All Voters with the Necessary Privacy and Secrecy mandated by Section 1107-A of the Election Code, 25 P.S. § 3031.7 (1)**

The ExpressVote XL has multiple design flaws that individually and collectively violate Section 1107-A of the Election Code, 25 P.S. § 3031.7 (1), and Article VII, Section 4 of the Pennsylvania Constitution. Section 1107-A requires a voting system that:

> Provides for voting in absolute secrecy and prevents any person from seeing or knowing for whom any voter, except one who has received or is receiving assistance as prescribed by law, has voted or is voting.

Article VII, Section 4 of the Pennsylvania Constitution guarantees that "All elections by the citizens shall be by ballot or by such other method as may be prescribed by law: Provided, That secrecy in voting be preserved." The ExpressVote XL does not comport with the Pennsylvania electorate's right to a secret ballot.

1. Chronological Ordering of Ballots

The ExpressVote XL stores ballot cards in chronological order in a ballot container. Ballots stored in chronological order may allow a poll worker or an election official who knows even partial details about the sequence of voters to violate the absolute secrecy of one or more voters.

This is unusual. Most precinct ballot scanners tabulate paper ballots or ballot cards and then let the papers fall into a large bin at random. Extracting the ballots from the bin mixes them further. But the ExpressVote XL machine slides ballot cards into a narrow, ballot-sized container, one after another, neatly stacked. When the polls close, the entire ballot container is removed and the ballot cards remain in chronological order inside. The Secretary's own Report Concerning Reexamination confirmed that the ballot cards are stored in chronological order. (*See* Grossberg Decl., Ex. 7, Reexamination Report at 8-9.) A voter's ballot could be determined by referencing the order of voters in the poll book or on the numbered list of voters, by counting from the first or last ballot in the set, or by counting from another identifiable ballot, such as one with a known write-in vote.

The Pennsylvania Election Code requires every polling place to maintain a numbered list of voters. 25 P.S. § 3050(a.3)(5). Voter names are added to the list in the order that they check-in. The lists are returned, along with the ballots, to the county election office after the polls close. In polling places with only one

ExpressVote XL device available for voting, the order of the voter names on the numbered list of voters will match the order of the ballot cards in the ballot container. In polling places with more than one ExpressVote XL device available for voting, if each device is used exclusively by voters from a single party during a primary election, the voter names on the numbered list of voters, when filtered by the party affiliation recorded on the list, will match the order of the order of the ballot cards in the ballot container. Chronologically ordered ballots fail to protect a voter's right to a secret ballot. The ability to link voters to their ballots and to know how they voted enables information harvesting, vote buying and selling, and voter coercion.

The Secretary's solution to this identified problem was to require, as an "additional condition for certification" of the ExpressVote XL machine, that ballot collection bins "must be opened in the presence of board of election members and must be commingled before canvass and storage." (*See* Grossberg Decl. Ex. 7, Reexamination Report at 11.) In practice, this did not occur in the November 5, 2019 general election (i.e., the very first election after the Secretary's imposition of additional conditions upon reexamination of the ExpressVote XL), and continues to pose a problem notwithstanding the "additional condition for certification." In Northampton County, ballot cards were not shuffled at all. (Munsey Decl. at ¶ 14.) In Philadelphia, the unsealing, commingling, and storage of ExpressVote XL ballot cards took place *concurrent with* the canvass; took place without any kind of security

presence; and took place entirely outside of the presence of board of election members. (Garella Decl. at ¶¶ 15-21.) Even without those flaws, cutting a stack of ballot cards 4-6 times, as Philadelphia did, fails to protect ballot secrecy. It provides only minimal shuffling and still allows a ballot to be identified with high probability.[14] As this experience in Northampton and Philadelphia demonstrates, added procedures are insufficient to protect ballot secrecy or meet the Election Code's requirement in 25 P.S. § 3031.7(1) that the voting system *itself* must provide for the required degree of ballot secrecy.

2. Spoliation Procedures

Section 1107-A of the Election Code, 25 P.S. § 3031.7(10), requires that any voting system "that uses paper ballots or ballot cards to register the vote and automatic tabulating equipment to compute such votes . . . shall provide that a voter who spoils his ballot may obtain another ballot . . . ." The combination of 25 P.S. § 3031.7(10)'s requirement that a voter be able to spoil their ballot, and 25 P.S. § 3031.7 (1)'s requirement that a voter be able to vote in "absolute secrecy" on a voting system that "prevents any person from seeing or knowing for whom any voter . . . has voted," requires that a voter be able to spoil their ballot without any person seeing that ballot. This right to secrecy when spoiling a ballot is consistent with

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[14] A stack of ballot cards cut into six stacks and reassembled will only affect 12 cards and only change one of each of the two neighboring cards. A stack of 300 ballot cards (the stated capacity of the container) would be in 98% the same order.

section 301(a)(1)(A) (ii) of the federal Help America Vote Act of 2002 (HAVA), 52

U.S.C. § 21081(a)(1)(A)(ii), which requires that a voting system must:

> provide the voter with the opportunity (in a private and independent manner) to change the ballot or correct any error before the ballot is cast and counted (including the opportunity to correct the error through the issuance of a replacement ballot if the voter was otherwise unable to change the ballot or correct any error) …

Voter secrecy is important even for a spoiled ballot. A voter might spoil a ballot to change or correct a vote for one particular candidate or issue, while desiring to protect the secrecy of votes for other candidates and issues. Or a voter could change her mind before the spoliation is completed and cast the ballot as-is.

The ExpressVote XL's procedures for ballot spoliation and for physical review of a ballot fail to provide this required secrecy. When any voter using the ExpressVote XL wants to spoil her ballot card or wants to handle the ballot card for physical review, the voter must select an option in the interface to "Quit" or "Spoil Ballot."[15] The ExpressVote XL then displays a spoliation message that can be configured by the jurisdiction.

Philadelphia voter Richard Garella used an ExpressVote XL machine in the November 5, 2019, election. (Garella Decl. at ¶ 3.) After making his selections and printing his ballot card, he decided to change his selections, and selected the "Spoil

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[15] The exact text of the button is configurable and can be renamed by the jurisdiction.

Ballot" option. (*Id.* at ¶ 4-5.) A box came up saying "Vote Session Canceled," and the machine started chirping. (*Id.* at 5.) A poll worker opened the curtain and entered Garella's voting booth without introducing or announcing himself. (*Id.* at ¶ 6.) The poll worker asked what Garella wanted to do; Garella explained that he wanted to change his vote. (*Id.*) Another poll worker then entered the booth, at which time both poll workers could see Garella's printed ballot. (*Id.*) The second poll worker typed a security code into the machine and caused the machine to eject the ballot card, which she then took and handed to another pollworker outside the booth. (*Id.* at ¶ 7.) <u>During the spoliation process, poll workers could see Garella's vote selections both inside the booth and after they removed the spoiled ballot.</u>

Pennsylvania Election Code § 1111-A, 25 P.S. § 3031.11 (b), provides that: "If any voter shall ask for further instructions concerning the manner of voting after entering the voting booth, any election officer may give him audible instructions *without entering such booth* . . . ." (Emphasis added.) But the ExpressVote XL does not permit a voter to spoil the ballot without the poll worker entering the booth.

In the Report Concerning Reexamination, the Secretary "concluded that appropriate voter and poll worker training and instructions on the screen can ensure vote record secrecy." (Grossberg Decl. Ex. 7, Reexamination Report.) Yet experience has already shown this to be false. Hoping that workers follow guidance,

and take precautions that experience shows they do not, fails to provide the level of secrecy mandated in the Pennsylvania Election Code.

A video taken at poll worker training on November 3, 2019 in Philadelphia County highlights the high probability that the legal procedures for spoiling a ballot will be violated and secrecy will not be maintained.[16] The trainer explained the procedure to poll workers as follows:

> Keep in mind that ballot is not yet spoiled. It is still very much active, okay so you have to give it back to the voter. But keep in mind, before even entering the curtain please announce yourself to the voter. We don't want the voter to feel like you are intruding on their privacy, so let them know you are coming in to spoil their ballot. Once you've done that, the paper ballot will eject out of the machine, you hand it back to the voter. Please do not look at their selections. As hard as that will be.

> We're only human so we make mistakes. Maybe glance, I don't know. But if you do, don't tell nobody else, okay?

It is also not lawful for poll workers to enter the voting booth while a voter is voting. Section 1830 of the Pennsylvania Election Code, 25 P.S. § 3530 ("Unlawful assistance in voting") specifies that any voter who "permit[s] another to accompany him into the voting compartment or voting machine booth" or "any person who shall go into the voting compartment or voting machine booth with another while voting or be present therein while another is voting" is guilty of a misdemeanor and may

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[16] *See* "PWT Nov 3 Vid 1/5 Spoiling a ballot/audience laughs at expense of voters," available at https://www.youtube.com/watch?v=GGK0JpnpJsE&t=110s at 1:30. (last accessed December 11, 2019).

be sentenced to pay a fine, imprisonment, or both. A voting system in which a voter exercising the legal right to spoil the ballot risks criminal charges is not "safely . . . useable in the conduct of elections" as required by 25 P.S. § 3031.7 (11).

The spoliation procedure can also reveal an administrator password to the voter. During public demonstrations of the ExpressVote XL, several members of the public reported easily observing the administrator password used during the spoliation procedure. Richard Garella was able to see the administrator password that was used when he spoiled his ballot during the actual election on November 5, 2019. (Garella Decl. at ¶ 7.) If the password is not kept secret, it opens up the possibility that unauthorized personnel could use the password to access functions in the machine related to voting and tabulation. A voting machine that reveals the administrator password to any voter who requests ballot spoliation does not provide "acceptable ballot security procedures" under 25 P.S. § 3031.7(12).

C. **The ExpressVote XL fails to Provide Adequate Accessibility to Voters with Disabilities in violation of Section 1107-A of the Pennsylvania Election Code, 25 P.S. § 3031.7(5)**

Section 1107-A of the Pennsylvania Election Code, 25 P.S. § 3031.7(5), requires that a voting system "[p]ermits *each* voter to vote for any person and any office for whom and for which he is lawfully entitled to vote, whether or not the name of such person appears upon the ballot as a candidate for nomination or election." (Emphasis added.) The requirement to permit "each" voter to vote for any

person and any office for whom and for which he is lawfully entitled to vote includes voters with disabilities.

This "each" voter requirement is consistent with the Help America Vote Act of 2002 (HAVA), § 301(a), 52 U.S.C. § 21081(a)(3)(A), which requires that a voting machine "be accessible for individuals with disabilities, including nonvisual accessibility for the blind and visually impaired, in a manner that provides the same opportunity for access and participation (including privacy and independence) as for other voters." The "each" voter requirement also follows the federal requirement that (to the extent that any HAVA Section 261 funds are involved in acquiring and or running the ExpressVote XL):

> An eligible State and eligible unit of local government shall use the payment received under this part for— (1) making polling places . . .accessible to individuals with disabilities, including the blind and visually impaired, in a manner that provides the same opportunity for access and participation (including privacy and independence) as for other voters.

HAVA section 261(b), 52 U.S.C. § 21021(b)(1).

The Pennsylvania certification of ES&S EVS 6.0.2.1 included an accessibility testing report ("Accessibility Report"). (Grossberg Decl. Ex. 18, Original Certification Report at 67.)[17] In a departure from similar accessibility testing

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[17] The Accessibility Report was appended as Attachment B to the Original Certification Report and is not consecutively paginated. The pin cites to the Accessibility Report are to the PDF page in the 99-page Original Certification Report document.

conducted on all other voting machines since 2017, the ExpressVote XL was harshly reviewed by the accessibility test group, comprised of several voters with a range of disabilities.

According to the Accessibility Report, "Every participant had at least one problem, despite relatively high election knowledge and digital experience, suggesting that the issue would be more severe for voters without these personal resources to help them understand what is happening." (*Id*. at 70.) The Accessibility Report noted that:

> None of the participants could verify the ballot in the glass cage and…(1) blind voters had no access to the ballot to use personal technology that would enable them to vote; (2) low vision voters could not position the ballot so they could read the small text; (3) other voters had problems reading the ballot because of glare and because the sides of the ballot were obscured by the cage; and (4) while it is possible to have the ballot ejected to handle it while verifying, the procedure is unclear and it requires voters to tell the system they want to "Quit" and then call a poll worker in which of course violates the voter's right to secrecy.

(*Id*. at 74.)

The Report also noted that the sensitive touch screen which often malfunctioned and selected the wrong candidates or deselected the right ones, affected "voters with a variety of disabilities." (*Id.* at 50.) The Report stated that those with cognitive disabilities found it confusing and frustrating to use the machine; low vision voters had trouble reading the screen noting inadvertent

changes to selections; low literacy voters often missed cues on different parts of the screen; blind voters struggled as the audio did not announce deselections, which made ensuring accuracy impossible. (*Id.*) The Report recommended that the ExpressVote XL give the voter more independent control, announce selections and deselections, and provide voters more feedback before casting their vote. (*Id.*) Such major improvements have yet to be made, compromising the ability of those with disabilities to vote.

Participants in the accessibility study found the ExpressVote XL made it difficult to cast write-in votes. For a vote for a write-in candidate to count, spelling must be perfect and "[a]ll of the participants knew that a misspelled write-in would not be counted, but [they] could not figure out how to review what was typed." (*Id.* at 70-71, 86-87.) Furthermore, the ExpressVote XL did not allow participants to review any write-in votes through the audio ballot because the text of the write-in is not encoded in the barcodes printed on the ballot card. (*Id.* at 73, 75, 88.) The Accessibility Report states that "1 blind voter, who had struggled to enter a write-in and wanted to confirm what was on the ballot, found that the actual text of the write-in is not included in the review because it is not encoded in the paper ballot barcodes." (*Id.* at 73.) The Accessibility Report describes this problem as "not only a failure to vote independently, but identifying and solving the problem requires revealing their votes to a poll worker or assistant." (*Id.* at 68-69.)

The Secretary's own Accessibility Report makes it clear that the ExpressVote XL is not accessible for individuals with disabilities in a manner that provides the same opportunity for access and participation (including privacy and independence) as for other voters and does not permit "each" voter to vote for any person and any office for whom and for which he is lawfully entitled to vote as required by 25 P.S. § 3031.7(5).

III. GREATER INJURY WOULD RESULT FROM REFUSING AN INJUNCTION THAN FROM GRANTING ONE, AND GRANTING AN INJUNCTION WILL NOT SUBSTANTIALLY HARM OTHER INTERESTED PARTIES NOR ADVERSELY AFFECT THE PUBLIC INTEREST.

Absent an injunction, as detailed above, the Pennsylvania electorate stands to have their votes misinterpreted, wrongly tallied, and unverified, with the major consequences of the wrong candidate being elected to office, all while voter confidence in the democratic system falters to an all-time low. The requested injunctive relief serves the public interest by ensuring that voters' votes are verifiable, secure, and correctly tallied, preserving public confidence in the electoral system.

The Commonwealth will likely argue that decertifying the ExpressVote XL machine will work a hardship on the counties planning to use them. But any such argument is refuted by the Secretary's March 2019 testimony on the issue of the importance of the Secretary's power to decertify election systems. The Secretary

testified that when the AVS Winvote system needed to be decertified in December 2007, the impacted counties (Northampton, Lackawanna, and Wayne) were able to "quickly acquire new equipment and train themselves and their poll workers in time for the presidential primary in April 2008."[18] More specifically, Secretary Boockvar testified:

> Sometimes decertification must happen very quickly, and it is very important to have a process in place that has the resiliency, knowledge base, and flexibility to study the issues quickly and assess whether changes must be made. For example, in late 2007, the Department was notified of an anomaly with the AVS Winvote system. The Department worked closely with the vendor to develop a plan and timeline to get the needed changes tested by the EAC and in to Pennsylvania for certification. Just as everyone agreed to the plan, the vendor backed out. The Department was left with no choice but to decertify the equipment. This decision was made in December 2007 and communicated immediately to the impacted counties…Those counties, with the help of the Department and fellow county election directors, were able to quickly acquire new equipment and train themselves and their poll workers in time for the presidential primary in April 2008. This same equipment was later also decertified in Virginia, two months before an election, and other states have had to make these types of decisions quickly as well.

Northampton's inclusion in this incident is notable, since they may again be faced with replacing a voting system after decertification. In January 2008,

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[18] *See* Grossberg Decl. Ex. 19, Testimony of Acting Secretary Kathy Boockvar to the Pennsylvania State Senate regarding SB 48, March 26, 2019, at 9.

Northampton acted swiftly to obtain a new voting system. Five voting system vendors presented options on January 15. On January 17, a selection was made and approved by the County Council.[19] An entirely new voting system was procured and used in the April 2008 primary. Even if the Commonwealth were able to prove through a preponderance of the evidence that they could not replace the system in time to administer the April 28, 2020 primaries in the limited number of counties currently planning to use the ExpressVote XL, this Court can order Respondent to decertify the ExpressVote XL in time for the November 2020 general election, 11 months from now, and then use other alternatives in the meantime, some of which will be discussed in the next section. *See Curling v. Raffensperger*, 397 F. Supp. 3d 1334, 1407-12 (N.D. Ga. 2019) (denying preliminary injunction against direct-recording (*i.e.*, paperless) electronic voting machines in August 2019 as but granting injunction as to March 2020 primary elections).

Finally, since it was the counties, and therefore the tax payers, that ultimately paid for the new machines, there may be some concern that decertification could cause huge debts to the individual cities affected. Fortunately, the contract between Philadelphia and ES&S contains clear language that *ES&S*—not the taxpayer—

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[19] *See* Joe Nixon, "County: It's Sequoia by a Landslide: With Lone Holdout, Council Picks New Voting Machine Vendor," *The Morning Call* (Jan. 18, 2008) (attached hereto at Grossberg Decl., Ex. 20).

bears responsibility for replacement costs if the Secretary of the Commonwealth

decertifies the ExpressVote XL. The contract provides:

> Equipment and Provider Software modifications or replacements necessary due to decertification by . . . the Commonwealth of Pennsylvania . . . ***must be provided to City at no cost or it must be replaced with a certified system at no cost.*** [ES&S] shall be liable to City for any and all reasonable costs incurred to obtain and utilize such replacement voting systems and/or alternative voting methods for all elections occurring until the equipment is recertified, reapproved or City terminates [the contract] for cause and procures new equipment.

(Grossberg Decl. Ex. 8, Provider Agreement Between City of Philadelphia

Procurement Department and Election Systems & Software dated May 13, 2019

(emphasis added).) Thus, if the Court orders Defendants to decertify the

ExpressVote XL, ES&S will bear the cost of providing Philadelphia with new,

compliant voting systems. The same is likely true of Cumberland County or any

other county, as this is surely a standard provision.

The experience of voters, election commissioners, judges, and candidates for

office in Northampton County in the 2019 general election is instructive and is alone

reason to order the injunctive relief sought. On election day it became clear that the

ExpressVote XL machines were providing inaccurate vote tallies, registering zero

votes for some candidates despite straight-ticket party voting being available. Tom

Bruno, an inspector of elections for Easton's 4th Ward in Northampton County,

voted a straight Democratic ticket; however, once polls closed, both machines at his

polling place showed zero votes for Abe Kassis, a Democratic candidate for county judge. (Bruno Decl. at ¶¶ 5-9.) The machine showed over thirty straight-party votes for the Democratic ticket, so it was obvious that the ExpressVote XL machines, despite appearing to display the correct information on both the touchscreen and the ballot card for voter verification, "had somehow altered the votes when tabulating them, giving all votes to the only Republican candidate in a 3-candidate race for 2 judge positions." (*Id.* at ¶ 11.)

The tabulation errors across Northampton County eroded public trust in the election system and, in view of the fatal flaw in the ExpressVote XL's design, it is hardly reassuring to claim that the inaccurate zero vote count was "corrected" in a recount, thus proving that the system works. First, as noted above, the recount could only address problems in the ExpressVote XL's ballot *tabulation*, not its ballot *marking*. Second, the ExpressVote XL's incorrect tabulation was only noticed because of plainly erroneous results; the vast majority of errors, whether due to intentional interference or system malfunction, will not produce such obviously erroneous results. In all but the most obvious cases, errors would go undetected, even if they were of sufficient magnitude to shift the result.

With the constitutional right of suffrage at stake, it is more important that a voting system that was given a vote of "no confidence" by the Northampton County Election Commission be disallowed from use than it is to allow the Commonwealth

to hijack the constitutional right of suffrage in the name of administrative ease, which is never enough to approve an unconstitutional act. *See Robinson Tp., Washington County v. Com.*, 83 A.3d 901, 949 (Pa. 2013) "([M]ere administrative ease cannot justify a regulation which is inconsistent with the language and purpose of the statute") (internal quotation omitted).

Given that an injunction will do nothing more than preserve the right of suffrage in its current form, it will not adversely affect the public interest. By definition, "[t]he public interest ... favors permitting as many qualified voters to vote as possible." *League of Women Voters of N. Carolina v. North Carolina*, 769 F.3d 224, 247–48 (4th Cir. 2014*); see also Purcell v. Gonzalez*, 549 U.S. 1, 4 (2006) (the public has a "strong interest in exercising the fundamental political right to vote" (citations omitted)). And "upholding constitutional rights serves the public interest." *Newsom v. Albemarle Cnty. Sch. Bd.*, 354 F.3d 249, 261 (4th Cir. 2003). A preliminary injunction is also in the public's best interest because it would enhance the integrity of the electoral processes that are "essential to the functioning of our participatory democracy." *Purcell*, 549 U.S. at 4. The Commonwealth cannot seriously demonstrate injury resulting from the relief that Plaintiffs request. The cost and time it would take for the Commonwealth to move to a voter-verifiable secure system do not outweigh Plaintiffs' significant constitutional interests. On balance of the injuries, the facts overwhelmingly favor granting Plaintiffs' injunction.

IV. A PRELIMINARY INJUNCTION WILL MAINTAIN THE STATUS QUO AND IS REASONABLY SUITED TO ABATE THE OFFENDING ACTIVITY.

Petitioners' requested injunction seeks only to preserve the status quo. *See City of Philadelphia v. Commonwealth*, 837 A.2d 591, 604 (Pa. Commw. Ct. 2003) (granting preliminary injunctive relief and noting that "the public interest lies in favor of maintaining the status quo" pending determination of the merits in the case). "The status quo to be maintained is the last actual and lawful uncontested status, which preceded the pending controversy." *Corbett v. Snyder*, 977 A.2d 28, 43 (Pa. Commw. Ct. 2009). Here the offending activity that the injunction is designed to remedy is the improper certification of the ExpressVote XL. Simply put, no violation will occur if the Court enjoins the Secretary to decertify the machine. The Commonwealth also has multiple avenues to pursue in order to correct the offending activity, all of which are reasonably suited to correct the ill and put no undue burden on the Commonwealth or the counties in implementation of a new system.

If necessary, the Commonwealth could utilize temporary measures while a new system is being identified and procured. For example, Philadelphia and Northampton already use a central-count optical scanner to tabulate absentee and provisional paper ballots. In the upcoming February 25, 2020 special election in Pennsylvania House of Representatives District 190, paper ballots could be used, securely collected and scanned centrally. In the last special election for this district,

on March 12, 2019, there were 4,786 votes cast out of a voting-age electorate of approximately 60,000 residents.[20] Other options include borrowing or leasing an already certified system from another county or state. In the April 2020 primary, paper ballots could be made available to voters alongside the ExpressVote XL, to provide all voters who wish to use a genuine voter-verifiable paper ballot the opportunity to do so. The Court may wish to hold a hearing to identify other measures.

CONCLUSION

For the foregoing reasons, Petitioners' Application for Special Relief in the Nature of a Preliminary Injunction should be granted.

Respectfully submitted,

BAKER & HOSTETLER LLP

Dated: January 10, 2020

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[20] *See* Grossberg Decl. Ex. 21, Ballotpedia: Pennsylvania House of Representatives District 190, https://ballotpedia.org/Pennsylvania_House_of_Representatives_District_190 (last visited Dec. 27, 2019).

FREE SPEECH FOR PEOPLE

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CERTIFICATE OF COMPLIANCE

The undersigned hereby certifies that Appellee has complied with the 14,000 word limit set forth in Pa. R.A.P. 2135(a)(1). According to the Word Count feature in Microsoft Office Word 2013, Petitioners' Brief contains 12,031 words, excluding the parts exempted by Pa. R.A.P. 2135(b).

Date: January 10, 2020

/s/ Lesley M. Grossberg
Lesley M. Grossberg

CERTIFICATION

I certify that this filing complies with the provisions of the *Public Access Policy of the Unified Judicial System of Pennsylvania: Case Records of the Appellate and Trial Courts* that require filing confidential information and documents differently than non-confidential information and documents.

Date: January 10, 2020

/s/ Lesley M. Grossberg
Lesley M. Grossberg (Pa. 208608)

CERTIFICATE OF SERVICE

I, Lesley M. Grossberg, hereby certify that on January 10, 2020, I caused a true and correct copy of the foregoing document titled Petitioners' Brief in Support of Application for Special Relief in the Form of a Preliminary Injunction Under Pa. R.A.P. 1532, together with all supporting exhibits thereto, be served via hand delivery to Respondent Kathy Boockvar, Acting Secretary of the Commonwealth, at the following addresses:

> Office of the Secretary of the Commonwealth
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Date: January 10, 2020   */s/ Lesley M. Grossberg*
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