

STATE OF NORTH CAROLINA
COUNTY OF WAKE

IN THE GENERAL COURT OF JUSTICE
SUPERIOR COURT DIVISION
____CVS ____-

NORTH CAROLINA STATE CONFERENCE OF
THE NAACP, KATHLEEN BARNES, ENRIQUE
GOMEZ, HARRIETT MENDINGHALL, and
GLENCE S. RHEDRICK

Plaintiffs,

v.

THE NORTH CAROLINA STATE BOARD OF
ELECTIONS, ALAMANCE COUNTY BOARD OF
ELECTIONS, ASHE COUNTY BOARD OF
ELECTIONS, BUNCOMBE COUNTY BOARD OF
ELECTIONS, BURKE COUNTY BOARD OF
ELECTIONS, CHEROKEE COUNTY BOARD OF
ELECTIONS, DAVIE COUNTY BOARD OF
ELECTIONS, DAVIDSON COUNTY BOARD OF
ELECTIONS, FORSYTH COUNTY BOARD OF
ELECTIONS, HAYWOOD COUNTY BOARD OF
ELECTIONS, HENDERSON COUNTY BOARD OF
ELECTIONS, JACKSON COUNTY BOARD OF
ELECTIONS, LENOIR COUNTY BOARD OF
ELECTIONS, MECKLENBURG COUNTY BOARD
OF ELECTIONS, NEW HANOVER COUNTY
BOARD OF ELECTIONS, PENDER COUNTY
BOARD OF ELECTIONS, PERQUIMANS COUNTY
BOARD OF ELECTIONS, POLK COUNTY BOARD
OF ELECTIONS, RUTHERFORD COUNTY
BOARD OF ELECTIONS, TRANSYLVANIA
COUNTY BOARD OF ELECTIONS, SURRY
COUNTY BOARD OF ELECTIONS, and WARREN
COUNTY BOARD OF ELECTIONS,

Defendants.

COMPLAINT

I. INTRODUCTION

1. Plaintiffs North Carolina State Conference of NAACP branches (“NC NAACP”), and Kathleen Barnes, Enrique Gomez, Harriet Mendinghall, and Glencie S. Rhedrick, individual members of the North Carolina electorate (the “Individual Plaintiffs”), challenge the use of the insecure and fatally flawed ExpressVote voting machine and the decision of the boards of elections in Mecklenburg County and other Defendant North Carolina counties (the “ExpressVote Counties”) to compel their voters to use this machine when voting. Plaintiffs seek to enjoin the use of the ExpressVote by any of North Carolina’s counties, thereby protecting North Carolinians’ constitutional right to an accurate and equal vote and to preserve the integrity of the electoral process.

2. The ExpressVote is an insecure, unreliable, and unverifiable machine that threatens the integrity of North Carolina’s elections.

3. The ExpressVote’s defects and security flaws create the risk that Plaintiffs, together with other North Carolina voters, will have their votes rendered meaningless or, worse yet, deemed cast for the wrong candidate. This creates a risk that the wrong candidates will be declared winners of elections improperly and take office in contravention of the very essence of our democracy.

4. The right to vote in free and fair elections is the foundation of our democracy. It is how we ensure that our government has the consent of the governed. It is enshrined in the North Carolina Constitution. The right to vote means that voters have the right not only to cast a ballot, but also to have that vote accurately recorded and counted. Therefore, when votes are not properly recorded or counted, that right is violated. Using the ExpressVote prevents voters from reading their actual ballot before casting it and verifying that their vote is properly recorded, denying their right to vote.

5. Using the ExpressVote also denies certain voters the right to equal protection under the law based on the county in which they live, the method of voting available to them, and how they choose to vote.

6. The ExpressVote is an electronic ballot-marking device (“BMD”) or voting machine sold by Election Systems & Software (“ES&S”). The ExpressVote suffers from known security vulnerabilities, is inaccurate, tabulates votes based upon a barcode that cannot be read by the voter, and cannot be sufficiently audited. The record produced by the ExpressVote used in North Carolina cannot be relied upon to consistently record, tally, and secure the votes of the state’s citizens.

7. During the March 2020 primary election, ExpressVote machines were left in improper modes, utilized for types of voting for which the machines had not been authorized, and were responsible for improperly tabulating votes in at least one county.

8. Using the ExpressVote is particularly perilous during the COVID-19 pandemic. COVID-19 can be spread to many North Carolinians through contact with the touchscreen computer or other parts of the ExpressVote. The CDC has offered guidance to election officials in an attempt to mitigate the threat (<https://www.cdc.gov/coronavirus/2019-ncov/community/election-polling-locations.html>), but remedial steps such as cleaning are time-consuming, difficult, and costly; can damage ExpressVote machines; and will be ineffective in eliminating the novel coronavirus if done improperly. Using the ExpressVote will exacerbate the public health crisis and cause longer lines where more voters will be exposed to one another.

II. JURISDICTION AND VENUE

10. This Court has original jurisdiction over this action pursuant to N.C.G.S. § 7A-245.

11. Venue is proper in this county pursuant to N.C.G.S. § 1-82, since some of the parties reside there.

III. PARTIES

12. Plaintiff North Carolina State Conference of NAACP branches (“NC NAACP”) is a non-partisan, non-profit organization comprised of over 100 adult branches, over 25 youth and college chapters, and 20,000 individual members through the state of North Carolina. The NC NAACP has members who are citizens and registered voters in each of the State’s 100 counties. The fundamental mission of the NC NAACP is to ensure political, educational, social, and economic equality of rights for all persons and to eliminate racial hatred and discrimination. In furtherance of this mission, the NC NAACP advocates for the integrity of democracy at the local, state, and national levels to ensure that elected representatives share the interests, values, and beliefs of, and are accountable to, the communities they represent, regardless of race. The NC NAACP encourages and facilitates non-partisan voter registration drives by its chapters to promote civic participation.

13. Plaintiff NC NAACP has had to divert personnel, time, and resources away from its planned activities in order to focus on the technological vulnerabilities that the ExpressVote has and will introduce into North Carolina elections, study the ExpressVote and identify security risks, advocate against the certification of the ExpressVote and its procurement by the ExpressVote counties, and convene meetings and educate members of the public and elected officials about the ExpressVote and the potential security risks and other dangers it creates. If another election is allowed to go forward using these machines, Plaintiff NC NAACP will continue to suffer such injuries.

14. The use of the ExpressVote machines has detracted from the NC NAACP’s fundamental mission, which includes fighting gerrymandering and other impediments to voting

that undermine free and fair elections, to its detriment. The NC NAACP will be injured by the continued use of the ExpressVote in future elections.

15. The NC NAACP has approximately 20,000 members in North Carolina. The NC NAACP has active branches in nearly every county in North Carolina, including in Alamance, Ashe, Buncombe, Burke, Cherokee, Davie, Davidson, Forsyth, Haywood, Henderson, Jackson, Lenoir, Mecklenburg, New Hanover, Pender, Perquimans, Polk, Rutherford, Surry, Transylvania, and Warren Counties.

16. NC NAACP members include individuals whose constitutional rights are at risk due to their votes being manipulated or otherwise not being recorded accurately by the ExpressVote. NC NAACP members face the imminent and substantial risk that their votes may not be counted at all, that their selections may not be recorded accurately, or that they will have to choose not to vote in order to avoid using the ExpressVote, which will pose a serious and unnecessary risk to their health and lives during the novel coronavirus pandemic. The interests of these members that NC NAACP seeks to protect are germane to its purpose.

17. Plaintiff Kathleen Barnes is a registered voter in Transylvania County, which uses the ExpressVote machine for in person early voting. She cast a ballot in the March primary election using the ExpressVote machine. She intends to cast a ballot in future elections and wants her future votes and the votes of all North Carolinians to be properly counted and tallied. Because she lives in Transylvania County, Plaintiff Barnes will be required to use the ExpressVote that is the subject of this suit to continue voting early in person. Plaintiff Barnes currently serves as Secretary of the Transylvania County NAACP.

18. Plaintiff Enrique Gomez is a registered voter in Jackson County, which uses the ExpressVote machine. He cast a ballot in person during the early voting period for the March

primary election using the ExpressVote machine. He intends to cast a ballot in future elections and wants his future votes and the votes of all North Carolinians to be properly counted and tallied. Plaintiff Gomez has always voted in person. Because he lives in Jackson County, Plaintiff Gomez will be required to use the ExpressVote that is the subject of this suit to continue doing so. Plaintiff Gomez currently serves as President of the Jackson County NAACP.

19. Plaintiff Harriett Mendinghall is a registered voter in Mecklenburg County, which uses the ExpressVote machine. She cast a ballot in the March primary election using the ExpressVote, intends to cast a ballot in future elections, and wants her future votes and the votes of all North Carolinians to be properly counted and tallied. Plaintiff Mendinghall has always voted in person. Because she lives in Mecklenburg County, Plaintiff Mendinghall will be required to use the ExpressVote that is the subject of this suit to be able to continue doing so. Plaintiff Mendinghall is a member of the Mecklenburg County NAACP and previously served as Secretary of the organization.

20. Plaintiff Reverend Glencie S. Rhedrick is a registered voter in Mecklenburg County, which uses the ExpressVote machine. She cast a ballot in the March primary election using the ExpressVote, intends to cast a ballot in future elections, and wants her future votes and the votes of all North Carolinians to be properly counted and tallied. Plaintiff Rhedrick prefers to vote in person. Because she lives in Mecklenburg County, Plaintiff Rhedrick will be required to use the ExpressVote that is the subject of this suit to be able to continue doing so.

21. Defendants' use of the ExpressVote in the 2020 election cycle threatens each of the Plaintiffs with imminent injuries.

22. The Individual Plaintiffs, who are all polling-place voters in the ExpressVote Counties, will be required to cast a ballot that cannot be read or verified by the voter and may not

reflect the voter's preferences. The Plaintiffs face an imminent threat to their right to vote. The Plaintiffs also suffer a greater risk than otherwise similarly situated voters who live in counties in which individuals cast their ballots using hand-marked paper ballots or assistive technology that produces traditional printed ballots identical or substantially similar to hand marked paper ballots, but marked by computers.

23. Because, in order to vote in person in the method that they prefer, they are required to use the ExpressVote, Plaintiffs face an increased threat of having their votes miscounted or not counted at all.

24. Because, in order to vote in person in the method that they prefer, they are required to use the ExpressVote, Plaintiffs will face a serious and unacceptable risk of novel coronavirus infection and therefore will have to choose between exercising their right to vote and protecting their health.

25. These anticipated injuries will occur when the Plaintiffs cast their vote in November. No independent event, other than the act of voting itself, is needed to bring about the anticipated injuries to the Individual Plaintiffs. Their injuries will be caused by the use of the ExpressVote machines.

26. Defendant North Carolina State Board of Elections (“SBE”) is charged, pursuant to Article 3 of Chapter 163 of the North Carolina General Statutes, with the supervision and administration of North Carolina’s election laws.

27. Defendant Alamance County Board of Elections is charged, pursuant to Article 4 of Chapter 163 of the North Carolina General Statutes, with the general supervision and administration of Alamance County and North Carolina’s election laws.

28. Defendant Ashe County Board of Elections is charged, pursuant to Article 4 of Chapter 163 of the North Carolina General Statutes, with the general supervision and administration of Ashe County and North Carolina's election laws.

29. Defendant Buncombe County Board of Elections is charged, pursuant to Article 4 of Chapter 163 of the North Carolina General Statutes, with the general supervision and administration of Buncombe County and North Carolina's election laws.

30. Defendant Burke County Board of Elections is charged, pursuant to Article 4 of Chapter 163 of the North Carolina General Statutes, with the general supervision and administration of Burke County and North Carolina's election laws.

31. Defendant Cherokee County Board of Elections is charged, pursuant to Article 4 of Chapter 163 of the North Carolina General Statutes, with the general supervision and administration of Cherokee County and North Carolina's election laws.

32. Defendant Davie County Board of Elections is charged, pursuant to Article 4 of Chapter 163 of the North Carolina General Statutes, with the general supervision and administration of Davie County and North Carolina's election laws.

33. Defendant Davidson County Board of Elections is charged, pursuant to Article 4 of Chapter 163 of the North Carolina General Statutes, with the general supervision and administration of Davidson County and North Carolina's election laws.

34. Defendant Forsyth County Board of Elections is charged, pursuant to Article 4 of Chapter 163 of the North Carolina General Statutes, with the general supervision and administration of Forsyth County and North Carolina's election laws.

35. Defendant Haywood County Board of Elections is charged, pursuant to Article 4 of Chapter 163 of the North Carolina General Statutes, with the general supervision and administration of Haywood County and North Carolina's election laws.

36. Defendant Henderson County Board of Elections is charged, pursuant to Article 4 of Chapter 163 of the North Carolina General Statutes, with the general supervision and administration of Henderson County and North Carolina's election laws.

37. Defendant Jackson County Board of Elections is charged, pursuant to Article 4 of Chapter 163 of the North Carolina General Statutes, with the general supervision and administration of Jackson County and North Carolina's election laws.

38. Defendant Lenoir County Board of Elections is charged, pursuant to Article 4 of Chapter 163 of the North Carolina General Statutes, with the general supervision and administration of Lenoir County and North Carolina's election laws.

39. Defendant Mecklenburg County Board of Elections is charged, pursuant to Article 4 of Chapter 163 of the North Carolina General Statutes, with the general supervision and administration of Mecklenburg County and North Carolina's election laws.

40. Defendant New Hanover County Board of Elections is charged, pursuant to Article 4 of Chapter 163 of the North Carolina General Statutes, with the general supervision and administration of New Hanover County and North Carolina's election laws.

41. Defendant Pender County Board of Elections is charged, pursuant to Article 4 of Chapter 163 of the North Carolina General Statutes, with the general supervision and administration of Pender County and North Carolina's election laws.

42. Defendant Perquimans County Board of Elections is charged, pursuant to Article 4 of Chapter 163 of the North Carolina General Statutes, with the general supervision and administration of Perquimans County and North Carolina’s election laws.

43. Defendant Polk County Board of Elections is charged, pursuant to Article 4 of Chapter 163 of the North Carolina General Statutes, with the general supervision and administration of Polk County and North Carolina’s election laws.

44. Defendant Rutherford County Board of Elections is charged, pursuant to Article 4 of Chapter 163 of the North Carolina General Statutes, with the general supervision and administration of Rutherford County and North Carolina’s election laws.

45. Defendant Transylvania County Board of Elections is charged, pursuant to Article 4 of Chapter 163 of the North Carolina General Statutes, with the general supervision and administration of Transylvania County and North Carolina’s election laws.

46. Defendant Surry County Board of Elections is charged, pursuant to Article 4 of Chapter 163 of the North Carolina General Statutes, with the general supervision and administration of Surry County and North Carolina’s election laws.

47. Defendant Warren County Board of Elections is charged, pursuant to Article 4 of Chapter 163 of the North Carolina General Statutes, with the general supervision and administration of Warren County and North Carolina’s election laws. (The SBE and the county defendants are collectively referred to as “Defendants.”)

IV. FACTUAL ALLEGATIONS

A. The Operation of the ExpressVote

48. The ExpressVote voting machine is a barcode-based BMD.

49. The ExpressVote is the only voting machine used in North Carolina that tabulates votes based on machine-readable barcodes that are not readable by humans.

50. The ExpressVote's key components are a computer running Microsoft Windows Embedded 7, which is configured to run software written by ES&S, and a printer. It requires voters to enter their votes on a touch screen or on an attachable audio-tactile key pad. The computer then prints out a ballot summary card (ballot card).

51. The ExpressVote has a touchscreen interface or movable keypad for selecting voter choices. It looks like this:



52. To use the ExpressVote, the voter inserts a piece of blank thermal paper to activate the machine. The voter may use the touch screen or audio-tactile keypad to make selections.

53. After the voter completes his or her selections, the machine prints onto the blank thermal paper a ballot summary card that, if working correctly, displays a human-readable text summary of the voter's choices and a purportedly corresponding barcode, which is unreadable by humans. The ballot summary card looks approximately like this:



54. The voter may or may not review the human-readable text before he or she feeds the ballot card into a scanner.

55. The barcode is readable by machines, but not by humans.

56. ES&S's tabulators scan and tabulate votes using only the machine-readable barcode section of the ballot card.

57. The scanner completely ignores the human-readable text section.

58. Under North Carolina law, official ballots prepared for hand marking must contain an "official ballot" heading, information about the title of each office and the number of votes allowed for each ballot item, the names of the candidates, party designations in partisan ballot items, an opportunity to cast a write-in vote, instructions to voters, the title and facsimile signature of the chair of the county board of elections, and the designation of the vacancy sought for judicial elections. N.C.G.S. § 163-165.5(a). The law also allows voting systems to qualify their printed summaries as an "official ballot even where the summary does not contain the necessary information." N.C.G.S. § 163-165.5(b).

59. The ExpressVote prints only a ballot card that does not contain all the information from the official ballot as it had been presented on the screen.

60. Other BMDs certified for use in North Carolina print ballots that are identical or virtually identical to hand-marked official ballots.

61. The ExpressVote ballot card shows only the elected office and the chosen candidate(s) for each contest. It does not provide the voter with the names of the other candidates in the race.

62. For ballot questions, the ExpressVote ballot card shows only an abbreviated title and voter's choice; it does not contain a description or the full text of the ballot question.

63. Once the ExpressVote prints the ballot card, a voter can review the summary and choose to spoil the ballot card and begin again or cast a vote by inserting the ballot card into a tabulating machine.

64. Hardware versions 1.0 and 2.1 of the ExpressVote component system (hereafter, HW 1.0 and HW 2.1) have an AutoCast feature that allows votes to be cast ***without the voter seeing the ballot card***. AutoCast can be configured in 3 ways: (1) to always print the ballot card for the voter to see; (2) to allow voters to choose whether to see the ballot card or to cast the vote without seeing the card; and (3) to eject the ballot card directly into a ballot box without allowing voters the opportunity to view the ballot card.

65. When the ballot card produced by the ExpressVote is entered into the tabulator, the text is ignored and only the barcode is scanned to tally voter selections and the ballot card is stored.

66. This process assumes that the vote selections that are encoded by the printed barcodes are the same as the vote selections that are described in the text summary and that both reflect the selections that the voter previously made on the touchscreen or keypad.

67. The barcode may not necessarily match the human readable text.

68. There are several ways in which the voter's selections, shown in the text summary, and the information encoded by the printed barcode may not match: the ExpressVote may be malfunctioning, may have been hacked, or may not have been coded properly.

69. Because the barcode is not readable by voters, they cannot determine whether the barcode contents match the ballot card's text summary; nor can they verify that their votes are being accurately marked or cast or make any necessary corrections.

B. North Carolina Counties Using the ExpressVote

70. The SBE voted to approve the ExpressVote voting system at issue in this case, the EVS 5.2.4.0, and, with it, the modified ExpressVote HW 2.1 on December 13, 2019.

71. On January 7, 2020, the Mecklenburg County Commissioners voted to approve the Mecklenburg County Board of Elections' request to purchase the EVS 5.2.4.0 and the ExpressVote HW 2.1 for use in future elections at a cost of between \$10 and \$11 million, even though more than 100 people had sent emails to the county expressing their opposition to the new system.

72. Alamance, Ashe, Buncombe, Burke, Cherokee, Davie, Davidson, Forsyth, Haywood, Henderson, Jackson, Lenoir, Mecklenburg, New Hanover, Pender, Perquimans, Polk, Rutherford, Surry, Transylvania, and Warren County are using the ExpressVote HW 2.1.

73. Seven of those counties – Cherokee, Jackson, Mecklenburg, Davie, Davidson, Warren, and Perquimans Counties – used the ExpressVote HW 2.1 as their primary method of voting on Election Day for the March 2020 primary election. They are planning to use the ExpressVote HW 2.1 as their primary method of voting in future elections as well.

74. Alamance and Transylvania Counties are using the ExpressVote as the primary method of voting for early voting but not as their primary voting method on Election Day.

75. The other ExpressVote Counties utilize the ExpressVote only for accessible voting for voters with a disability or as a secondary method of voting.

76. The remainder of North Carolina's counties rely on other voting systems that utilize hand-marked paper ballots, with an optional ballot-marking device that uses the same or substantially similar ballots but does not produce human-unreadable barcodes for voters who must, or who prefer to, mark their ballots with assistive technology.

77. Because the ExpressVote is an unreliable, insecure machine, no voter should be required to use it simply because that person has a disability or is choosing to vote early—an option that may be important for limiting lines on Election Day for public health reasons during

the novel coronavirus pandemic—as there are other accessible voting system component options certified in North Carolina. Plaintiffs seek to enjoin the use of the ExpressVote for *any* form of voting.

C. The ExpressVote Demonstrably Fails to Record and Tabulate Votes Accurately

78. The failure of the ExpressVote voting system at issue in this case to accurately record and tabulate votes has been documented in actual elections since its use began.

79. The Johnson County, Kansas Election Office could not report election results for approximately 13 hours after the polls closed for the August 2018 primary election, which the office itself called “frustrating” and “unacceptable,” due to a software error involved with the same ExpressVote hardware and a later version of the software at issue in this case.

80. In 2018, Prince George’s County, Maryland, hired a third-party auditor to audit votes cast on the ExpressVote and found that three percent of barcodes were recorded but neither read nor assigned a vote by the tabulator. This indicates that there was a record of a voter selection yet no vote was tabulated.

D. The ExpressVote Does Not Create an Independent, Verifiable, or Auditable Record of Voters’ Choices

81. To ensure the accuracy of the vote and protect voters’ constitutional rights to meaningfully participate in elections, states must implement safeguards that secure the accuracy of the ballots cast. They can do so by preserving a voter-verified, non-digital record of the voter’s selection, detecting potential cyberattacks, and providing a method for remedying errors or anomalies caused by successful attacks. In practice, this means establishing robust and consistent audit procedures based on *physical, human-readable* evidence of voter intent, verified by the voter.

82. Experts in election administration agree that post-election audits are an indispensable element in detecting errors and permitting correction in the event of cyberattacks or other voting machine problems such as human programming errors. Systematic post-election audits provide election administrators with a method for confirming the outcome, an especially vital safeguard for voting systems that electronically record or tabulate votes.

83. To be effective, post-election audits must include certain essential elements. First, audits must be employed as a matter of standard procedure in every election, with clear procedures for the sample size and methods to be used. Second, post-election audits must have clear rules for what happens in the event that an audit is inconsistent with initial results. Third, audits must be based on a reliable record of the choices made directly by the voters, independent of that saved in each voting machine's software.

84. While the ExpressVote does produce a ballot card purporting to contain a voter's choices for verification and auditing purposes, it does not produce an independently verifiable or truly auditable record of a voter's choices.

85. The ballot card contains a voter's purported choices in both human-readable text summary form and machine-readable barcode summary form. But only the votes encoded in the barcodes, which cannot be read or verified by the voters, will be counted in the official tabulation. By contrast, voters who are able to use hand-marked paper ballots or accessible machines that produce a traditional paper ballot have access to the complete ballot content throughout the voting process, and are able to verify and confirm that their vote selections are properly recorded.

86. In Numbered Memo 2019-07, dated November 1, 2019, the SBE stated that “[f]or the purpose of conducting sample hand-to-eye audits under G.S. § 163-182.1(b)(1), hand-to-eye

recounts under §§ G.S. 163-182.7 and G.S. 163-182.7A, and hand-to-eye counts for any other reason, the printed names must always be used in counting the votes, rather than coordinates or barcodes. This is because the printed name is what the voter used to verify his or her intent.”

87. Thus, audits, recounts, and hand-to-eye counts use a different source for what constitutes a vote (the printed names) than do the tabulators on Election Day (the barcode).

88. Voters are supposed to review the readable text to satisfy themselves that the printed list of selections is completely accurate and report any machine malfunctions or discrepancies to poll managers. However, that is not possible with the ExpressVote. Even when voters are able to satisfy themselves that the summary actually reflects the preferences they expressed when voting on the ExpressVote, this design requires voters to trust that the non-human-readable barcode matches the text summary.

89. The human readable text does not provide an audit record of voter intent that can be relied upon in audits or recounts to represent voter intent because, as studies show, voters are not capable of detecting errors in the recording of their votes for several reasons.

90. First, ballots are lengthy and complex. Many involve multiple candidate elections, numerous candidates, with multiple options, and ballot questions. Most of this information is not reproduced onto the ballot summary card.

91. Additionally, systemic issues caused by hacking, machine error, or human programming error generally cannot be identified or corrected by voters or poll workers.

92. A recent peer-reviewed study conducted by University of Michigan researchers found of the voters using BMDs that reviewed the ballot card, only 7.8 percent of voters could identify discrepancies between their selections on the computer screen and what appeared on their ballot. See Matthew Bernhard and J. Alex Halderman et al., *Can voters detect malicious*

manipulation of ballot marking devices?, Proceedings of the 41st IEEE Symposium on Security and Privacy (2020), <https://jhalderm.com/pub/papers/bmd-verifiability-sp20.pdf>.

93. The study found that “absent specific interventions, error detection and reporting rates are dangerously low. Unless verification performance can be improved dramatically, ExpressVote paper trails . . . cannot be relied on to reflect voter intent if the machines are controlled by an attacker.” Bernhard & Halderman et al. at 13.

94. This is a problem for all voters, but the burden on the right to vote is particularly acute for North Carolina’s most vulnerable voters – those who are from a lower socioeconomic status or are disabled, elderly, less well-educated, limited in their English proficiency, or illiterate.

95. The burden will also be greater for voters forced to vote at precincts with longer lines or fewer machines.

E. ExpressVotes are Insecure and Vulnerable to Cybersecurity Threats

96. North Carolina’s election system has been targeted in the past by sophisticated adversaries, including Russia and other hostile foreign governments. In 2019, the Department of Homeland Security and the Federal Bureau of Investigation issued a joint intelligence bulletin announcing that Russia carried out reconnaissance and hacking efforts against election networks in all U.S. states, including North Carolina, during the 2016 election.

97. The Report On The Investigation Into Russian Interference In The 2016 Presidential Election (The “Mueller Report”) outlined the scale and sophistication of Russia’s efforts to interfere in the 2016 election, leaving no doubt that Russia and other adversaries will strike again. The Mueller Report concluded that “[t]he Russian government interfered in the 2016 presidential election in sweeping and systematic fashion.” It further explained that foreign

actors “sought access to state and local computer networks by exploiting known software vulnerabilities on websites of state and local governmental entities.” The report also found that these foreign agents were successful in attacking at least one state and that their activities involved “more than two dozen states.” As noted prior to the Special Counsel’s final report, North Carolina was among the states that Russia targeted.

98. Foreign adversaries targeted North Carolina’s election system to achieve a variety of goals, including undermining voter confidence and causing fraudulent election outcomes.

99. Attackers are capable of sabotaging ExpressVotes to prevent them from functioning on Election Day or to cause incorrect results. They are capable of infiltrating ExpressVotes with malicious software in order to cause plausible but fraudulent election results. These attacks could succeed despite the protections that North Carolina has in place, such as the ability to access stored ballot cards.

100. North Carolina’s ExpressVotes do not achieve the level of security necessary to withstand an attack by a sophisticated adversary such as a hostile foreign government. It suffers from serious security risks much like those of the notoriously flawed DRE voting system it has replaced in many counties.

101. Attackers are capable of sabotaging the ExpressVotes and other polling place equipment and preventing them from functioning on Election Day, causing lengthy delays and driving away eligible voters.

102. Attackers are capable of manipulating election management systems or optical scanners used to read the ExpressVote-created barcodes to cause them to report fraudulent outcomes.

103. Attackers are capable of infiltrating the ExpressVotes to cause them to print ballots that differ from voters' actual selections. Such an attack might change only the barcode, the portion of the ballot that scanners count. Such a change would be invisible to voters.

104. Attackers are also capable of infiltrating the ExpressVotes and changing both the barcode and the human-readable text on ballots.

105. These attacks are possible by introducing malicious software ("malware") into the election equipment through physical access to the equipment, by dishonest election workers or vendors or their employees, by an attack on the hardware or software supply-chain, or by spreading from the election management systems to polling place equipment during routine pre-election procedures.

106. Cybersecurity experts warn that use of a "barcode" application for voting systems like the ExpressVote is inherently dangerous due to the risk of unidentified hacking. One of the nation's foremost voting system cybersecurity experts, Harri Hursti, testified to the U.S. Presidential Commission on Election Integrity on September 12, 2017 that hackers can inject malware targeting how the machine reads the barcode, which is "very dangerous" and therefore "we have to be very careful with the technology."

107. Ultimately, the ExpressVote is a computer and, like all computers, is vulnerable to hacking. The specific vulnerabilities of the ExpressVote have been widely documented.

108. For example, the ES&S Voting System 5.2.1.0, which uses the ExpressVote, was subject to a source code review by ATSEC Information Security Corporation, which carried out the test on behalf of the State of California. ATSEC conducted a static code review and searched public vulnerability sources.

109. Although North Carolina is using a slightly different version of the ExpressVote than the one reviewed by ATSEC, it is highly likely that the vulnerabilities identified by ATSEC also exist in the version used by North Carolina.

110. The vulnerabilities identified by ATSEC include the following:

- a) The ExpressVote was missing multiple security patches, leaving it vulnerable to malware and ransomware.
- b) The ExpressVote used common initialization vectors for cryptographic functions and failed to upgrade cryptography as cryptographic algorithms became more susceptible to attacks over time. It did not employ full disk encryption in its primary storage devices. The USB flash device's file systems were not encrypted.
- c) The ExpressVote included areas of poor code quality and outdated and vulnerable code that could contain backdoors into the system.
- d) The ExpressVote had variable standards for password strength and used hard-coded passwords.
- e) The ExpressVote utilized default credentials and configurations maintained on removable management software kept outside of the operating system.

111. According to ATSEC, these vulnerabilities allow for unauthenticated attackers to read files and modify them, recover passwords, and execute arbitrary code to otherwise access the system, all of which allow remote authenticated users to gain administrator-level privileges or access to the ExpressVote they should not have.

112. As result, unauthorized remote users could copy the software, modify it, reintroduce the modified software back into the system, alter audit records or audit functionality, and modify the boot device, all without leaving evidence of the tampering. In sum, attackers could insert a malicious software and cause the ExpressVote to execute the malicious software instead of the legitimate one.

113. The human-readable text on the ballot card cards does not provide a record of the voter's selection that can be relied upon in audits or recounts to represent voter intent, as studies show that voters are not capable of detecting errors.

114. Dr. Philip B. Stark, an expert in post-election manual audits, has found that the ExpressVote can be maliciously programmed or hacked to create an entirely fraudulent machine-marked "paper ballot" because the machine includes an option that allows the voter to "AutoCast" the ballot without first printing and inspecting it. Because the machine does not mark the ballot until the voter decides whether to exercise that option, the machine receives advance notice of which ballots are "AutoCast" and thus safe to fraudulently mark.

115. Computer Science Professor Andrew Appel of Princeton University, subsequently confirmed the existence of this defect and dubbed it "permission to cheat."

116. Finally, the ExpressVote HW 2.1 uses Windows Embedded 7. This is a special stripped-down operating system for tablets, mobile devices, ATMs, etc. It has many known vulnerabilities to hacking and malfunction. Moreover, support for this operating system ends on October 13, 2020. This is referred to as "end of life." After this date, Microsoft will no longer provide security and bug fixes to the public.

F. The ExpressVote Creates a Serious and Unacceptable Risk to Public Health During the Novel Coronavirus Pandemic

117. On or about March 10, 2020, North Carolina Governor Roy Cooper declared a state of emergency in response to the spread of the novel coronavirus. On March 27, Governor Cooper ordered non-essential people in North Carolina to stay at home for 30 days.

118. By April 10, 2020, North Carolina had approximately 3,908 laboratory-confirmed cases of the novel coronavirus, and there were more than 427,000 cases nationwide.

119. The novel coronavirus spreads between people who are within 6 feet of one another, through respiratory droplets produced by the infected person. It also spreads when a person touches a surface or object that has the virus on it and then touches their own mouth, nose, or eyes.

120. To prevent infection, the Centers for Disease Control and Prevention (“CDC”) recommends that people wash their hands often, maintain a distance of at least 6 feet from other people, and routinely clean and disinfect frequently touched surfaces.

121. Other coronaviruses have been found to survive for 4 to 5 days on glass surfaces and up to 5 days on plastic (with certain strains surviving for up to 9 days).

122. The novel coronavirus has been found to survive on plastic for 3 days.

123. The ExpressVote contains glass and plastic components.

124. Every voter will have to touch the ExpressVote screen or keypad a number of times to vote and touch the plastic components when inserting and retrieving the ballot card.

125. ES&S has published guidelines for cleaning its equipment. Its voting systems have a number of surfaces that will require cleaning, including touch screens, ADA peripherals, input trays, ballot boxes, and external surfaces of the equipment.

126. Many common cleaners cannot be used on the ExpressVote. In its guidance, ES&S warned against using “full-strength, harsh detergents, liquid cleaners, aerosols, abrasive pads, scouring powders, or solvents.”

127. According to ES&S’s instructions, to clean the ExpressVote, a trained poll worker must have access to a “soft, lint-free cloth with isopropyl alcohol (70%),” an “ES&S Touch Screen Cleaning Kit,” or “Alcohol wipes; especially, Super Sani-Cloth and Incides N.”

128. Purchasing ES&S's touch screen cleaning kit, special cleanser and wipes, and the lint-free cloths will place additional cost burdens on each county.

129. ES&S's instructions contain warnings that limit how workers may clean the machines, including warnings to not scratch the screen, not to use common disinfectant sprays, not to apply liquid cleaner to the unit, and not to "soak the cloth with solution."

130. Cleaning the ExpressVote correctly will take a substantial amount of time, and it will be difficult to properly clean all of the ExpressVote components.

131. If the poll worker uses the wrong cleaner, accidentally touches a button during cleaning, or does not clean the ExpressVote according to the vendor's instructions, the machine could break or malfunction.

132. If the machine is not cleaned after each person casts a ballot, the coronavirus—and other viruses and bacteria—will remain on the touch screen, keypad, and other surfaces.

133. If poll workers clean each machine after every voter, particularly at the necessary level of care recommended by ES&S, voter lines will increase dramatically in every county, increasing the risk of long lines and voters standing in large crowds in close quarters.

134. In Mecklenburg County and in other counties, poll workers must touch the screen of the ExpressVote to activate the machine and pull up the ballot style for each voter. This creates additional vectors of transmission, as it increases the chance of person-to-person transmission between the poll worker and voter while they are in close proximity, and increases the risk that the poll worker will transfer the virus onto the screen while setting the machine up for the voter. To avoid the second type of transmission, the poll worker should clean the screen a second time, after activating the machine and pulling up the ballot style—but this will lengthen

the time that the poll workers is in close proximity with the voter, and risk the poll worker inadvertently making selections on the voter's behalf.

135. Voters required to vote on the ExpressVote, particularly in those counties that deploy the ExpressVote for universal voting, will be at greater risk for contracting the novel coronavirus than voters who are allowed to vote using hand-marked paper ballots in counties that reserve BMDs for individuals who require assistive technology.

136. Poll workers also risk contracting COVID-19 or inadvertently transmitting it to voters due to the number of times they must touch the ExpressVote on Election Day.

137. Voting booths and pens can be quickly cleaned with any cleaner approved by the CDC to kill the coronavirus. Voting booths have no electrical components, require no electrical outlets and can be configured to maintain a safe distance between voters. Poll workers and voters can wear gloves while handling ballots or while voting. Ballots do not have to be handled by anyone except the poll worker and the voter.

CLAIM 1: THE RIGHT TO FREE AND FAIR ELECTIONS

(Violation of North Carolina Constitution Article I, § 10)

138. Plaintiffs incorporate by reference as if fully set forth herein each of the preceding allegations.

139. The Free Elections Clause of the North Carolina Constitution provides that “[a]ll elections shall be free.” N.C. Const., art. I, § 10. The Free Elections Clause guarantees that elections must be conducted freely and honestly, and that North Carolina citizens have the fundamental right to ensure that elections are conducted in a manner to fairly and truthfully ascertain the will of the voters.

140. Plaintiffs' rights under Section 10 of the North Carolina Constitution include not only the right to have their own votes counted correctly but also the right to have their votes not be diluted by incorrectly counted or tabulated votes.

141. As a result of Defendants' conduct, in-person voters in the ExpressVote Counties will be required to cast their ballots using the ExpressVote. This creates the imminent risk that their votes will not be counted accurately or at all. No one can legitimately verify whether the ExpressVote has properly tabulated voters' ballots.

142. Use of the ExpressVote in the 2020 election cycle imposes severe burdens on Plaintiffs' right to vote because: (1) the ExpressVote is subject to grave security threats that put the individual Plaintiffs' vote and those of similarly situated voters at risk; (2) the ExpressVote has been proven to malfunction in its marking and tabulation of votes; (3) the ExpressVote does not permit Defendants to insure that the votes of Plaintiffs or other voters have been counted correctly; and (4) the ExpressVote creates a serious and unacceptable risk to public health.

143. The screen of the ExpressVote and other ExpressVote-related components are vectors of transmission for the novel coronavirus. Using the ExpressVote poses an unacceptable risk to the life and health of many voters and poll workers, which may discourage or effectively prevent voters—particularly those most vulnerable to the novel coronavirus—from being able to vote in person.

144. Usage of the ExpressVote imposes severe burdens on North Carolina voters' right to participate in free and fair elections that accurately ascertain the will of the people. The ExpressVote machines are so insecure and defective that the legitimacy and integrity of elections cannot be guaranteed while they are in use, therefore violating Article I § 10 of the North Carolina Constitution.

145. This Court is the only venue that can provide an adequate remedy to protect Plaintiffs' constitutional rights.

146. The North Carolina Office of Administrative Hearings (OAH) has no jurisdiction over constitutional claims. Because Plaintiffs have alleged that the use of the EVS 5.2.4.0 system and the ExpressVote HW 2.1 violates their constitutional rights under Article I Secs. 10 and 19 of the North Carolina Constitution, an administrative proceeding would not provide an adequate remedy at state law.

147. Even if the OAH had authority to hear constitutional claims, challenging the SBE's certification of the EVS 5.2.2.0 system and the ExpressVote HW 2.1 by filing a contested case petition with the North Carolina Office of Administrative Hearings would have been futile because, among other reasons, the administrative hearing process is lengthy and elections may not be delayed during the pendency of the proceedings.

148. If an injunction does not issue against Defendants' conduct, Plaintiffs' fundamental right to vote in free and fair elections will be violated, and Plaintiffs will suffer irreparable injuries for which there is no adequate remedy at state law.

CLAIM 2: THE RIGHT TO EQUAL PROTECTION OF THE LAWS

(Violation of North Carolina Constitution Article I, § 19)

149. Plaintiffs incorporate by reference as if fully set forth herein each of the preceding allegations.

150. The Equal Protection Clause of the North Carolina Constitution guarantees that "[n]o person shall be denied the equal protection of the laws." N.C. Const., art. I, § 19.

151. The right to vote on equal terms is a fundamental right and equal protection of the laws extends to the right to vote.

152. The use of the ExpressVote in the 2020 election cycle will cause violation of Plaintiffs' right to equal protection.

153. As a result of Defendants' conduct, in-person voters in the ExpressVote Counties will be required to cast their ballots using the ExpressVote. With this comes all of the risks and burdens outlined above, including the risk of votes not being counted, not being verifiable, and being miscounted.

154. This infringes Plaintiffs' right to equal protection under Article I § 19 of the North Carolina Constitution because, while some North Carolina voters are compelled to vote in counties using the ExpressVote, voters in other counties may use voting systems such as hand-marked paper ballots that do not suffer from the same defects. Imposing these burdens and risks on some voters but not others violates equal protection of the laws.

155. The coronavirus has higher incidents of serious symptoms, hospitalization, and death among certain populations, including the elderly. Individuals will not be able to safely vote without risking their health in counties that use the ExpressVote, which violates equal protection of the laws because voting by hand-marked paper ballots does not pose the same risk.

156. Conducting elections using the ExpressVote is neither justified by any compelling state interest nor narrowly tailored and it therefore violates Article I, § 19 of the North Carolina Constitution.

157. If an injunction does not issue against Defendants' use of the ExpressVote, Plaintiffs' fundamental right to equal protection of the laws will be violated, and Plaintiffs will suffer irreparable injuries for which there is no adequate remedy at state law.

PRAYER FOR RELIEF

WHEREFORE, Plaintiffs respectfully request that this Court:

A. Enter a judgment finding and declaring it unconstitutional for any public election in North Carolina to be conducted using the ExpressVote component currently being utilized by the County Defendants.

B. Enter a permanent injunction decertifying the ExpressVote and prohibiting Defendants from employing the ExpressVote to conduct any public election in North Carolina.

C. Enter a permanent injunction requiring that Defendants employ a properly certified voting system using hand-marked paper ballots as the standard method of voting, along with at least one properly certified accessible voting system other than the ExpressVote for persons who request use of such a device.

D. Enter a permanent injunction requiring Defendants to conduct statistically valid, post-election, precertification audits of all contested races or ballot questions.

E. Award Plaintiffs reasonable attorneys' fees and costs.

F. Retain jurisdiction to ensure all Defendants' ongoing compliance with the foregoing Orders.

F. Grant such other and further relief that this Court deems just and appropriate.

Dated: April 15, 2020

Respectfully submitted,

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