#### Presidential

### **Election Integrity Commission**

Submitted by

Judge Alan L. King

September 6, 2017

#### TO: Hon. Andrew Kossack, EOP/OVP

Hon. Vice President Mike Pence, *Chair*, c/o Hon. Andrew Kossack; Hon. Kris Kobach, *Vice-Chair*; Hon. Connie Lawson; Hon. Bill Gardner, Hon. Matthew Dunlap; Hon. Ken Blackwell; Hon. Christy McCormick; Hon. David Dunn; Hon. Mark Rhodes; Hon. Hans von Spakovsky; Hon. J. Christian Adams

### STATEMENT OF ISSUES/RECOMMENDATIONS

An Executive Order was entered by President Donald Trump on May 11, 2017, which set out the "Mission" of the Commission as, among other things, identifying "Sec. 3(b) those laws, rules, policies, activities, strategies, and practices that enhance the American peoples' *confidence* in the integrity of the voting process used in federal elections.

Over one million American soldiers have either been killed or maimed for life, not only afflicting them but their families, in defense of our nation in World War I, World War II, Korea, Vietnam, two Iraq Wars, and Afghanistan while on duty in conflicts or during peace time. Hundreds of thousands of Soldiers, Sailors, National Guard and Reserve are presently on duty to protect America.

Our soldiers, men and women, fought for all of us, and our American way of life. Those who fought and died were injured for freedom. And voting is the very essence of freedom. To deprive ANY of our citizens of the right to vote is the most severe travesty of justice imaginable.

This Commission, and we as a people, should be expanding the rights of our citizens to vote, instead of arguably looking for ways to keep people from voting.

I wish to submit ten (10) areas that, if not addressed by this Commission and the President and U.S. Congress, will severely undermine the *confidence* in federal elections as we move forward as a democracy and as the greatest nation on Earth. They are:

1. Funding in excess of \$5 billion is needed and warranted every ten years by the U.S. Congress for distribution to the 50 states for the states, in turn, to distribute to counties for upgrades in voting equipment.

Technology is moving faster than civilization. Voting in the Unites States is dependent on technology. The Help America Vote Act (HAVA) in 2002 distributed over \$4 billion to the states for the purchase/upgrades of voting equipment.

Since 2002, there have been newer models of voting machines by multiple vendors, and some counties have been able to afford to upgrade their equipment and/or purchase new equipment; however, many counties cannot afford to do so, so they "make do" with outdated equipment. Unfortunately, many if not most states cannot afford to assist their counties or parishes in this regard. As we move forward as a nation, there has to be a funding source to keep up with the technological advances in conducting elections. (See attachments from BallotPedia and NCSL).

- Enact federal statutes that make it a crime for any person or state to suppress the right
  of ALL Americans, regardless of their race, creed, color or level of affluence to vote in
  federal elections.
- 3. Engage three statistical experts from accredited colleges/universities to independently study whatever data, if any, is submitted to the Commission for the 2016 Presidential Election, and have them testify in person before this Commission.

Some parts of our electorate wish to beat their chests on so-called "voter fraud," and there may be some isolated instances of people voting in their state of residence, perhaps by absentee ballot, and also, perhaps, voting where their beach house or lake house or mountain cabin is located. And there may be a few instances no doubt on both sides of the aisle, Republican and Democratic, where overzealous voters wish to vote twice. But, I would venture to say, thousands upon thousands more people are stricken from voter rolls without justifiable cause or have their vote suppressed.

The reality is that the less affluent in our society are more prone to move and more prone to have a diminished economic position in life, just to survive. But that does not mean that officials in government should "game the system" to deprive the less affluent from voting, simply because they may have moved from one election to another only to be stricken from the active voter list.

In Alabama, for instance, 340,000 voters have been stricken from the active voting list and moved to the inactive voting list in the past few months. This was based on a mailing that, as I understand it, was returned as undeliverable. The reality is that people move, and the post office only forwards mail for a limited number of months. To move voters from active to inactive based on a flawed system is unconscionable.

- 4. Reaffirm and enact legislation that sets out that each individual state is responsible for conducting their elections. But states need the resources to do so. Democracy and this great nation will fall from within unless government is funded at an adequate level.
- 5. Enact federal regulations that make it a felony for a voter to be registered to vote in more than one county or parish, regardless of whether they vote in more than one location on election day or not.
- Enact federal legislation for any candidate or person who cooperates with a foreign government in connection with a U.S. election to be prosecuted for treason. (Please see attachment).
- 7. Enact federal legislation that makes it a felony offense for any person or organization to "hack" any voting machine, system, or e-poll book or any voting apparatus in the United States of America.

E-poll books are now used in 20-30 states. It has been reported that e-poll books were "hacked" by the Russians in North Carolina that affected "about 90,000 voter registration records."

Again, this goes back to advances in technology. This nation has to provide a secure voting experience for our citizens if we are to enhance "confidence" in our elections which is our mission.

8. Secretary Kobach has a voter registration group, the Interstate Voter Registration Crosscheck Program (Interstate Crosscheck), which is used in approximately 30 states. This system is reported to use "matches" to remove voters from voting lists.

There is another group named the Electronic Records Information Center (ERIC) that has secure servers. Approximately 20 states and the District of Columbia have voluntarily joined ERIC and share information.

If states are to share data, which, arguably, is a serious invasion of privacy, whether Interstate Crosscheck or ERIC, the voter information needs to be on secure servers (the technology issue again) and the system(s) need to be governed and operated by advanced business practices and not driven by partisan philosophical beliefs.

- 9. Engage independent, knowledgeable technological "hacking" experts and have them testify before this Commission. Recent reports are that on-site "hackers" at a recent technology event in Las Vegas successfully "hacked" into a well-known election vendor's voting machine in approximately 20 minutes. If independent "hackers" can do so in a short period of time; imagine what foreign governments can do with all of the resources at their disposal.
- 10. Focus every available American resource on the alleged Russian "hacking" of the 2016 Presidential Election and disclose all findings to the American people. (see attachment from the New York Times Magazine).

It is my sincere hope and prayer that this Commission will focus on the real election issues facing the Unites States of America, including alleged "hacking" by the Russians, instead of spending precious time focusing on non-issues to deprive American citizens from voting. The ten (10) issues deserve our nation's most earnest attention if we are truly to instill *confidence* in our future elections.

# BALLOTPEDIA \*The Encyclopedia of American Politics

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# Help America Vote Act (HAVA) of 2002

The Help America Vote Act (HAVA) is a major federal election reform law. The legislation, which was approved by the 107th United States Congress and signed into law by President George W. Bush in 2002, created the Election Assistance Commission, provided for the replacement of outmoded voting equipment, and established new minimum administration standards for federal elections. The law was written, in substantial part, as a response to the controversy surrounding the contentious presidential election of 2000.[1]

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#### HIGHLIGHTS

- The Help America Vote Act appropriated federal funds to be disbursed to the states for the purpose of updating voting equipment and election administration procedures. As of October 1, 2015, approximately \$3.3 billion had been awarded under the act.
- The law established the Election Assistance Commission, which disburses HAVA funds to the states and assists in ensuring compliance with the law.
- The law also mandated that any new registrant must provide either a driver's license number or the last four digits of his or her Social Security number at the time of registration.

## Background

In 2000, Al Gore (D) and George W. Bush (R) faced off in a historically competitive presidential contest. The hinged on the state of Florida and its 25 electoral votes. Bush narrowly won Florida, but the margin of vict that a series of recounts took place. Ultimately, the United States Supreme Court halted the recounts. But winner in Florida; the state's 25 electoral votes brought Bush's total to 271, winning him the presidency. [2]

In August 2001, the National Commission on Federal Election Reform, chaired jointly by former President: and Jimmy Carter (D) released a report analyzing the 2000 presidential election and proposing the followi

- 66
- 1. Every state should adopt a system of statewide voter registration.
- 2. Every state should permit provisional voting by any voter who claims to be a qualified voter in
- 3. Congress should enact legislation to hold presidential and congressional elections on a natio
- 4. Congress should adopt legislation that simplifies and facilitates absentee voting by uniformer overseas citizens.
- 5. Every state should allow for restoration of voting rights to otherwise eligible citizens who hav convicted of a felony once they have fully served their sentence, including any term of probat
- 6. The state and federal governments should take additional steps to assure the voting rights of

n

C P E F



A voting stand, ballot, and ballot box used in Palm Beach County, Florida, in the 2000 presidential election

BALLOT

and to enforce the principle of one person, one vc

# Legislative history

The Help America Vote Act was introduced in the United States House of Representatives by Robert Ney (R) on November 14, 2001. On December 12, 2001, the bill passed the House 362-63. The U.S. Senate approved an amended version of the bill unanimously on April 11, 2002. A joint conference committee was convened to reconcile differences between the two bills.<sup>[5]</sup>

On October 10, 2002, the House adopted the conference committee version of the bill by a vote of 357-48. The Senate followed suit on October 16, 2002, by a vote of 92-2. On October 29, 2002, President George W. Bush (R) signed the Help America Vote Act into law. Bush made the following statement regarding the law:<sup>[5][6]</sup>

[The] Act appropriately respects the primacy of State and governments in the administration of elections, while hel ensure the integrity and efficiency of voting processes in elections by providing Federal governmental support for endeavor.<sup>[4]</sup>

—Presid

## Key provisions

### Funds disbursed to the states

The Help America Vote Act appropriated federal funds to be disbursed to the states for the purpose of up equipment and election administration procedures. The funds were intended, in part, to incentivize states card and lever voting machines. The law did not, however, explicitly prohibit states from using these kinds machines.<sup>[1]</sup>

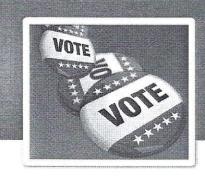
As of October 1, 2015, approximately \$3.3 billion had been awarded to the states under the Help America below depicts award amounts by state. To see specific figures, hover over a state. A lighter shade of red in award amount; a darker shade of red indicates a larger award amount.<sup>[7]</sup>

# M NCSL

# THECANVASS

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#### can•vass (n.)

Compilation of election returns and validation of the outcome that forms the basis of the official results by a political subdivision.

—U.S. Election Assistance Commission: Glossary of Key Election Terminology

# Election Funding for 2020 and Beyond

As jurisdictions across the country are preparing for 2016's big election, many are already thinking of the *next* presidential election—2020 and beyond. This is especially true when it comes to the equipment used for casting and tabulating votes.

Voting machines are aging. A September report by the Brennan Center found that 43 states are using some voting machines that will be at least 10 years old in 2016. Fourteen states are using equipment that is more than 15 years old. The bipartisan Presidential Commission on Election Administration dubbed this an "impending crisis."

To purchase new equipment, jurisdictions require at least two years lead time before a big election. They need enough time to purchase a system, test new equipment and try it out first in a smaller election. No one wants to change equipment (or procedures) in a big presidential election, if they can help it.



Even in so-called off-years, though, it's tough to find time between elections to adequately prepare for a new voting system. As Merle King, executive director of the Center for Election Systems at Kennesaw State University, puts it, "Changing a voting system is like changing tires on a bus... without stopping." So if election officials need new equipment by 2020, which is true in the majority of jurisdictions in the country, they must start planning now.

Here's the catch: nationwide, officials report that they're not quite sure where the money for new machines will come from. The machines that they're replacing were mostly paid for in the mid-2000s by federal funds through the Help America Vote Act of 2002 (HAVA)—but there's little hope of federal funding this time around.

HAVA drastically changed the landscape of voting technology. Not only did it shift the country away from lever and punch card voting machines by paying for replacement equipment, it also altered the elections equipment market. For one thing, because so much of the nation's equipment was bought at the same time, a majority of the country's machines will need replacement around the same time as well. HAVA also made local jurisdictions more dependent on funds coming from the feds rather than on their county coffers. A whole generation of county commissioners has come of age in an era when they haven't had to budget for voting equipment, as was the norm in the pre-2000 era.

Elections are critical infrastructure, as important to the functioning of the country as roads. As such, what are some funding options? And what questions are states asking?

#### Inside this issue:

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### Should every jurisdiction in the state have the same equipment?

Even before HAVA, a few states moved to a uniform voting system, with every jurisdiction using the same equipment. For instance, this is required in Georgia by statute. In Georgia, having a uniform system allows machine testing and maintenance to be done on the state level by the Center for Election Systems at Kennesaw State University.



(Election Funding for 2020 and Beyond, cont. from page 1)

Georgia estimates that it saves about \$1 million a year by doing its own maintenance, as opposed to paying for a voting system vendor to perform maintenance. Having a uniform system also helps with contingency planning. If a county has a large-scale problem with its machines—a fire in its warehouse, for example—machines can be borrowed from adjacent counties. Training for election officials can be done statewide, and the state can better assist with trouble-shooting technical problems on Election Day.

Maryland also has a uniform system across the state and obtained new equipment in 2015. The state and counties split the cost of the system 50/50 and Maryland has chosen to lease its new system rather than purchase it outright.

New Mexico is the most recent state to choose a single system. Prior to HAVA, New Mexico had a variety of voting systems in use and provided a revolving fund in the secretary of state's office that counties could draw on at no interest. The counties chose from a menu of options certified by the state. After HAVA, however, New Mexico moved to a statewide system. New machines were purchased last year, with funds allocated by the legislature in two appropriations. The state negotiated the contract with the vendor and machines are maintained at the state level. As New Mexico Senator Daniel Ivey-Soto notes, "If the state owns the rules governing elections, we thought it made sense to also own the hardware and software that implement those rules."

Colorado does not yet have a uniform voting system, but may be moving to one. A working committee has been studying the issue for the last two years, and in November pilots of four different systems were conducted across the state. The state plans to decide which of these systems to choose for a statewide contract by the end of the year. Not all of Colorado's 64 counties will purchase new equipment right away, but more than one-third have expressed interest in making a purchase and rolling out new equipment in 2016. Funds for the new equipment would come from individual counties, but they would be able to secure a low-interest loan from the state to make initial purchases, taking advantage of the purchasing power of the state.

In addition to the states mentioned above, Alabama, Connecticut, Delaware, Louisiana, Maine, Nevada, New Hampshire, North Dakota, Rhode Island, South Carolina, Utah and Vermont also use the same machines statewide.

#### If the same machines aren't used statewide, can the state still help its jurisdictions purchase new equipment?

By contrast, Kansas, Minnesota and Wisconsin are highly decentralized. In Wisconsin, elections are run at the municipal level in 1,853 jurisdictions. Many of the smaller jurisdictions count paper ballots by hand. Within a given county, there may be different machines used in different municipalities, making the state a true hodge-podge of voting equipment. Even though elections are run at the municipal level, counties still play a role and may assist municipalities with purchasing new equipment. The state, however, does not play a role in funding voting equipment.

In Minnesota, counties own and purchase voting equipment, and many different systems are in use. A recent survey of counties showed that almost all of them need to replace equipment by 2020, and almost none know where the funding will come from. Some of the larger counties have made purchases already, but it is the counties with fewer resources that could most benefit from some state assistance.

The situation is similar in Kansas, where Senator Mitch Holmes notes a divide between urban and rural counties in the voting technology used, and the ability to find funds for new equipment. In a decentralized state like Kansas, the rural counties are at a disadvantage, and as Holmes says, "Change is tough in elections—there's no room for errors!" Several of the larger counties in Kansas recently got together to issue an RFP for new equipment, in a regional collaboration that has also been discussed in other states.



Sen. Mitch Holmes (KS)

If you're going to go regional, some argue, why stop at the state line? Regional cooperatives could be made between states that are looking at buying similar equipment, increasing their purchasing power. Collaboration could also focus on services—counties that aren't necessarily adjoining but have similar service or maintenance requirements could get together to share resources and negotiate favorable contracts with vendors.

#### Where do the funds come from?

Some states are discussing a statewide bulk purchase to take advantage of economies of scale and potentially get a better deal on new elections equipment. Others are telling the counties that they must continue to be responsible for funding new equipment.

States are looking at a variety of sources. Among the options being discussed are:

- direct appropriation for voting equipment statewide. A variation on this theme would be to split the cost between the state and counties.
- for counties that need to purchase equipment, with funds appropriated by the legislature and administered by the secretary of state or board of elections.
- Hntering into agreements with counties to buy equipment in

(cont. on page 3)



(Election Funding for 2020 and Beyond, cont. from page 2)

bulk. In this scenario the counties would provide the funds, but the state would negotiate the contract.

- eaving the purchasing and decision-making in the hands of local jurisdictions, where funding could come from local appropriations or through bonds. A few jurisdictions have a capital expense line item for elections equipment, and funds build up over a few years to make major purchases.
- edicated revenue through fees. In states where the secretary of state is the chief election official, this could be through fees administered by the business side of the office.
- orking with private firms to design brand new equipment or open source software that can be run on off-the-shelf devices. Some of the larger jurisdictions in the country such as Los Angeles, San Francisco and Travis County, Texas (where Austin is located) are exploring this option.

Or, jurisdictions may be able to carve out funds for new equipment by creating efficiencies elsewhere in the process. This is dependent on collecting good data—jurisdictions need to know where they are spending their money in order to identify potential areas for savings. As Amber McReynolds of the Denver Elections Division notes, "First you should eliminate waste and create efficiencies, and only then look at adding new technology and equipment."

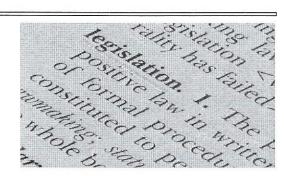
States are undoubtedly facing some changes in voting equipment in the comings years. As King notes, "States should see change as an opportunity to make elections more efficient." And we're in a better position to deal with this change than we were in 2000. Charles Stewart III, a professor at MIT who studies election administration, notes that the country has come a long way in developing professional standards and best practices in election administration: "We're going to be able to dive into any problems that might arise more quickly and comprehensively than ever before."

## Legislative Action Bulletin

- legislatures are in session.
- 355 election-related bills have been introduced.
- 15241 bills in 45 states have been enacted.
- 7 bills in seven states have been vetoed.

Qualifications for poll workers got more attention than usual this year, with 124 bills introduced in 32 states. Many of these bills are intended to provide relief to election officials, who often say their biggest headache is finding enough poll workers.

Enactments of note: California AB 554 permits students to serve as election officials if they are lawful permanent residents. California already allows youth to serve as poll workers. New Hampshire HB 140 gives state party officials responsibility for appointing local election officials, instead of local party officials. Indiana HB 1140 allows counties to decide if one person can serve as an inspector for more than one precinct at the same location. Virginia HB 1333 allows state party officials to sign forms designating authorized representatives of political parties for elections, when local level party officials can't do so. Montana HB 69 allows



required training to be offered online or through teleconferences.

Vetoes were big, too. New Jersey's governor vetoed New Jersey AB 2906, which would have excluded compensation paid to Election Day poll workers from inclusion in gross income for tax purposes. Virginia HB 1473 would have permitted general registrars to be appointed from adjacent jurisdictions and was vetoed by the governor who argued jurisdictions should intensify their recruitment search if they are having difficulties finding candidates for the position. Texas HB 2381, which related to the appointment and duties of election officers, was vetoed because of concerns about elected county clerks overriding the party's selection of candidates.



75 percent. That is the approximate percentage of voters nationwide who cast their ballots in a designated polling place, either in a traditional precinct polling place or a vote center, in the 2014 elections according to Managing Polling Places Resources, the latest report from the Caltech/MIT Voting Technology Project. From that number it's clear that all the attention to mail voting has not changed the fact that Americans are still voting in traditional brick and mortar polling places, not just on Election Day but in the days leading up to it. The report details basic facts about waiting to vote, what leads to lines at polling places and how election officials can gather and analyze data to prepare for the 2016 election. It also has a roadmap for reducing lines permanently. An essential read for the upcoming election season.

# The New Hork Times https://nyti.ms/2wXMSnS

**POLITICS** 

# Russian Election Hacking Efforts, Wider Than Previously Known, Draw Little Scrutiny

By NICOLE PERLROTH, MICHAEL WINES and MATTHEW ROSENBERG SEPT. 1, 2017 The calls started flooding in from hundreds of irate North Carolina voters just after 7 a.m. on Election Day last November.

Dozens were told they were ineligible to vote and were turned away at the polls, even when they displayed current registration cards. Others were sent from one polling place to another, only to be rejected. Scores of voters were incorrectly told they had cast ballots days earlier. In one precinct, voting halted for two hours.

Susan Greenhalgh, a troubleshooter at a nonpartisan election monitoring group, was alarmed. Most of the complaints came from Durham, a blue-leaning county in a swing state. The problems involved electronic poll books — tablets and laptops, loaded with check-in software, that have increasingly replaced the thick binders of paper used to verify voters' identities and registration status. She knew that the company that provided Durham's software, VR Systems, had been penetrated by Russian hackers months before.

"It felt like tampering, or some kind of cyberattack," Ms. Greenhalgh said about **SEE MY OPTIONS** Subscriber login ARTICLE THE MYNTING troubles in Durham.

There are plenty of other reasons for such breakdowns — local officials blamed human error and software malfunctions — and no clear-cut evidence of digital sabotage has emerged, much less a Russian role in it. Despite the disruptions, a record number of votes were cast in Durham, following a pattern there of overwhelming support for Democratic presidential candidates, this time Hillary Clinton.

But months later, for Ms. Greenhalgh, other election security experts and some state officials, questions still linger about what happened that day in Durham as well as other counties in North Carolina, Virginia, Georgia and Arizona.

After a presidential campaign scarred by Russian meddling, local, state and federal agencies have conducted little of the type of digital forensic investigation required to assess the impact, if any, on voting in at least 21 states whose election systems were targeted by Russian hackers, according to interviews with nearly two dozen national security and state officials and election technology specialists.

The assaults on the vast back-end election apparatus — voter-registration operations, state and local election databases, e-poll books and other equipment — have received far less attention than other aspects of the Russian interference, such as the hacking of Democratic emails and spreading of false or damaging information about Mrs. Clinton. Yet the hacking of electoral systems was more extensive than previously disclosed, The New York Times found.

Beyond VR Systems, hackers breached at least two other providers of critical election services well ahead of the 2016 voting, said current and former intelligence officials, speaking on condition of anonymity because the information is classified. The officials would not disclose the names of the companies.

Intelligence officials in January reassured Americans that there was no indication that Russian hackers had altered the vote count on Election Day, the bottom-line outcome. But the assurances stopped there.

Government officials said that they intentionally did not address the security of the back-end election systems, whose disruption could prevent voters from even SEE MY OPTIONS Subscriber login

questions than answers.

Neither VR Systems — which operates in seven states beyond North Carolina — nor local officials were warned before Election Day that Russian hackers could have compromised their software. After problems arose, Durham County rebuffed help from the Department of Homeland Security and Free & Fair, a team of digital election-forensics experts who volunteered to conduct a free autopsy. The same was true elsewhere across the country.

"I always got stonewalled," said Joe Kiniry, the chief executive and chief scientist at Free & Fair.

Still, some of the incidents reported in North Carolina occur in every election, said Charles Stewart III, a political scientist at the Massachusetts Institute of Technology and an expert on election administration.

"Election officials and advocates and reporters who were watching most closely came away saying this was an amazingly quiet election," he said, playing down the notion of tampering. He added, though, that the problems in Durham and elsewhere raise questions about the auditing of e-poll books and security of small election vendors.

Ms. Greenhalgh shares those concerns. "We still don't know if Russian hackers did this," she said about what happened in North Carolina. "But we still don't know that they didn't."

### Disorder at the Polls

North Carolina went for Donald J. Trump in a close election. But in Durham County, Hillary Clinton won 78 percent of the 156,000 votes, winning by a larger margin than President Barack Obama had against Mitt Romney four years earlier.

While only a fraction of voters were turned away because of the e-poll book difficulties — more than half of the county cast their ballots days earlier — plenty

of others were affected when the state mandated that the entire county revert to paper rolls on Election Day. People steamed as everything slowed. Voters gave up and left polling places in droves — there's no way of knowing the numbers, but they include more than a hundred North Carolina Central University students facing four-hour delays.

At a call center operated by the monitoring group Election Protection, Ms. Greenhalgh was fielding technical complaints from voters in Mississippi, Texas and North Carolina. Only a handful came from the first two states.

Her account of the troubles matches complaints logged in the Election Incident Reporting System, a tracking tool created by nonprofit groups. As the problems mounted, The Charlotte Observer reported that Durham's e-poll book vendor was Florida-based VR Systems, which Ms. Greenhalgh knew from a CNN report had been hacked earlier by Russians. "Chills went through my spine," she recalled.

The vendor does not make the touch-screen equipment used to cast or tally votes and does not manage county data. But without the information needed to verify voters' identities and eligibility, which county officials load onto VR's poll books, voters cannot cast ballots at all.

Details of the breach did not emerge until June, in a classified National Security Agency report leaked to The Intercept, a national security news site. That report found that hackers from Russia's military intelligence agency, the G.R.U., had penetrated the company's computer systems as early as August 2016, then sent "spear-phishing" emails from a fake VR Systems account to 122 state and local election jurisdictions. The emails sought to trick election officials into downloading malicious software to take over their computers.

The N.S.A. analysis did not say whether the hackers had sabotaged voter data. "It is unknown," the agency concluded, whether Russian phishing "successfully compromised the intended victims, and what potential data could have been accessed."

VR Systems' chief operating officer, Ben Martin, said he did not believe Russian hackers were successful. He acknowledged that the vendor was a "juicy target," given that its systems are used in battleground states including North Carolina, Florida and Virginia. But he said that the company blocked access from its systems to local databases, and employs security protocols to bar intruders and digital triggers that sound alerts if its software is manipulated.

On Election Day, as the e-poll book problems continued, Ms. Greenhalgh urged an Election Protection colleague in North Carolina to warn the state Board of Elections of a cyberattack and suggest that it call in the F.B.I. and Department of Homeland Security. In an email, she also warned a Homeland Security election specialist of the problems. Later, the specialist told her Durham County had rejected the agency's help.

When Ms. Greenhalgh, who works at Verified Voting, a nonprofit dedicated to election integrity, followed up with the North Carolina colleague, he reported that state officials said they would not require federal help.

"He said: 'The state does not view this as a problem. There's nothing we can do, so we've moved on to other things," Ms. Greenhalgh recalled. "Meanwhile, I'm thinking, 'What could be more important to move on to?'"

# An Interference Campaign

The idea of subverting the American vote by hacking election systems is not new. In an assessment of Russian cyberattacks released in January, intelligence agencies said Kremlin spy services had been collecting information on election processes, technology and equipment in the United States since early 2014.

The Russians shied away from measures that might alter the "tallying" of votes, the report added, a conclusion drawn from American spying and intercepts of Russian officials' communications and an analysis by the Department of Homeland Security, according to the current and former government officials.

The most obvious way to rig an election — controlling hundreds or thousands

of decentralized voting machines — is also the most difficult. During a conference of computer hackers last month in Las Vegas, participants had direct access and quickly took over more than 30 voting machines. But remotely infiltrating machines of different makes and models and then covertly changing the vote count is far more challenging.

Beginning in 2015, the American officials said, Russian hackers focused instead on other internet-accessible targets: computers at the Democratic National Committee, state and local voter databases, election websites, e-poll book vendors and other back-end election services.

Apart from the Russian influence campaign intended to undermine Mrs. Clinton and other Democratic officials, the impact of the quieter Russian hacking efforts at the state and county level has not been widely studied. Federal officials have been so tight-lipped that not even many election officials in the 21 states the hackers assaulted know whether their systems were compromised, in part because they have not been granted security clearances to examine the classified evidence.

The January intelligence assessment implied that the Russian hackers had achieved broader access than has been assumed. Without elaborating, the report said the Russians had "obtained and maintained access to multiple U.S. state and local election boards."

Two previously acknowledged strikes in June 2016 hint at Russian ambitions. In Arizona, Russian hackers successfully stole a username and password for an election official in Gila County. And in Illinois, Russian hackers inserted a malicious program into the Illinois State Board of Elections' database. According to Ken Menzel, the board's general counsel, the program tried unsuccessfully "to alter things other than voter data" — he declined to be more specific — and managed to illegally download registration files for 90,000 voters before being detected.

On Election Day last year, a number of counties reported problems similar to those in Durham. In North Carolina, e-poll book incidents occurred in the counties that are home to the state's largest cities, including Raleigh, Winston-Salem, Fayetteville and Charlotte. Three of Virginia's most populous counties — Prince William, Loudoun, and Henrico — as well as Fulton County, Georgia, which includes Atlanta, and Maricopa County, Arizona, which includes Phoenix, also reported difficulties. All were attributed to software glitches.

Senator Mark Warner, Democrat of Virginia and vice chairman of the Senate intelligence committee, argued for more scrutiny of suspicious incidents. "We must harden our cyber defenses, and thoroughly educate the American public about the danger posed" by attacks," he said in an email. "In other words: we are not making our elections any safer by withholding information about the scope and scale of the threat."

In Durham County, officials have rejected any notion that an intruder sought to alter the election outcome. "We do not believe, and evidence does not suggest, that hacking occurred on Election Day," Derek Bowens, the election director, said in a recent email.

But last month, after inquiries from reporters and the North Carolina State Board of Elections and Ethics Enforcement, Durham county officials voted to turn over laptops and other devices to the board for further analysis. It was not clear which government agency or private forensics firm, would conduct the investigation.

Ms. Greenhalgh will be watching closely. "What people focus on is, 'Did someone mess with the vote totals?'" she said. "What they don't realize is that messing with the e-poll books to keep people from voting is just as effective."

Follow Nicole Perlroth, Michael Wines, and Matthew Rosenberg on Twitter.

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